Cisco AIOps: Comment l'Intelligence Artificielle peut aider à mieux gérer mon Réseau LAN/WAN?

community.cisco.com en français

Thao Le-Thien, Technical Solutions Architect
Nicolas Boursier, Systems Architect
Enterprise Networking - France

19 mars 2024

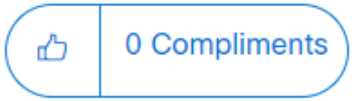
Connectez, Engagez, Collaborez !

Solutions

Acceptez les solutions qui sont correctes et complimentez ceux qui vous ont aidé ! Aidez autres utilisateurs à trouver les réponses correctes dans la fenêtre de recherche.

Compliments

Mettez en évidence les autres membres. Les votes utiles motivent les membres enthousiastes en leur offrant un signe de reconnaissance !



Prix Spotlight Awards

De nouveaux lauréats tous les mois !

Démarquez-vous par vos efforts et votre engagement à améliorer la communauté et à aider les autres membres.

Les Spotlight Awards sont décernés chaque trimestre pour récompenser les membres les plus remarquables.

Rencontrez les gagnants de novembre-janvier 2024

Vous pouvez désormais également proposer un candidat ! Cliquez ici

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Nos experts

Thao Le-Thien

Technical Solutions Architect

Diplômé de l'Institut Electronique du Nord (ISEN) à Lille, en France, Thao débute sa carrière en Officier Instructeur en Informatique dans la Marine Nationale au Centre d'Instruction Naval à Saint-Mandrier-Sur-Mer (Le Var 83) en 1988, puis il rejoint IBM en tant qu'Ingénieur Technique Commercial sur les technologies réseaux SNA.

En 1995, il rejoint Cisco comme Consultant Réseau pour développer et mettre en œuvre des solutions de transport de données entre le Mainframe et des agences en environnements LAN et WAN. En 2000, il rejoint l'équipe de spécialistes Enterprise Networking France en tant qu'Architecte de Solutions Techniques, travaillant sur des solutions innovantes d'intégration Voix, Données et Vidéo. Il s'oriente vers la gestion de réseaux puis l'orchestration de réseaux en environnement Campus. Thao participe activement aux projets clients LAN et WAN sur les technologies de commutation et sans-fil en IP traditionnel ou Fabric.

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Nos experts

Nicolas Boursier

Systems Architect

Diplômé de l'Université Paris VII en Réseaux et Télécommunications, Nicolas a débuté sa carrière chez les opérateurs Orange Business Services et Bouygues Telecom en tant qu'ingénieur réseau.

Il a ensuite travaillé en avant-vente avec les constructeurs Ericsson et Alcatel-Lucent pour fournir des solutions d'infrastructure dorsale (backbone) aux opérateurs.

Nicolas a rejoint Cisco France en 2020 où il assume le rôle d'ingénieur avant-vente sur la technologie Catalyst SD-WAN.

Téléchargez la présentation https://bit.ly/WEBsld-mar24

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Objectifs:

- Vue d’ensemble de l’IA chez Cisco
- Démonstration des bénéfices de l’IA en WAN et Campus Cisco

Sujets non traités:

- Qu’est-ce que l’Intelligence Artificielle?
- Comment ça marche l’IA?

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- Pourquoi AIOps?
- Cisco et l’IA
- AIOps dans Catalyst SD-WAN & Demo
- AIOps dans Catalyst Campus & Demos
- Conclusion

Pourquoi AIOps ?

Cisco Enterprise Chat AI - powered by Azure OpenAI API.

Quelle est la définition de l'AIOps ?

L'AIOps, ou Artificial Intelligence for IT Operations, est un terme qui désigne l'utilisation de techniques d'intelligence artificielle et de machine learning pour automatiser et améliorer les processus de gestion des opérations informatiques. analyse de données à grande échelle pour surveiller les systèmes informatiques, identifier et anticiper les problèmes potentiels, et résoudre automatiquement ces problèmes finaux et les opérations de l'entreprise.

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Challenges de l’administration des réseaux aujourd’hui

Accroissement des terminaux et des usages

Les réseaux deviennent complexes

Mobilité

Cloud

De plus en plus de données de télémétrie, mais comment filtrer lesquelles sont pertinentes ?

Les entreprises veulent simplifier les opérations et protégée des cyber attaques

Amélioration de l’expérience utilisateur

Difficulté à trouver des ressources qualifiées pour la gestion du réseau

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IDC*: Quatre catégories de cas d'utilisation pour la gestion de réseau d'entreprise améliorée par l'IA/ML

- **Analyser** : Comprendre ce qui se passe dans le réseau ; Apprendre ce qu'est un comportement normal et identifier les comportements anormaux qui indiquent des problèmes de performance ou de sécurité.

- **Optimiser** : augmentez l'utilisation du réseau grâce à des informations basées sur les données et des recommandations opérationnelles basées sur des modèles de données historiques pour prédire les comportements futurs du réseau.

- **Corriger** : résolvez les problèmes de réseau avant qu'ils n'affectent les utilisateurs. Réduisez le temps moyen d'identification et de réparation (MTTI/MTTR) des performances du réseau ou des anomalies de sécurité.

- **Prédire** : en fonction des modèles de trafic historiques, prévoyez les futurs problèmes de réseau qui peuvent être anticipés pour garantir l'expérience des utilisateurs et des applications.

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*IDC #US51369823 (November 2023)
Source: Future Enterprise Resiliency & Spending Survey Wave 8, IDC, September 2023, N=888, NA: 369, WE: 219, AP: 300

Gartner

“Yet, there is no doubt: There is no future of IT operations that does not include AIOps”

Gartner, Inc. |G00750431

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Top of mind AI use cases of Cisco IT infra

Use Cases	Customer Value (survey score)	Perceived as High ROI	Technical Difficulty
Root cause analysis	4.8		4.1
Event correlation	4.6		4.0
Predictive device maintenance	4.3		3.2
Automatic remediation	4.2		3.7
Application experience: monitor/predict	4.1		3.0
Configuration changes validation	4.0		3.0
Wireless capacity prediction	4.0		3.1
Alert noise reduction	3.9		3.2
Network policies and user authentication predictions and recommendation	3.9		3.2

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Cisco et l’IA

Predictive AI

Maturity in 2017

Prediction, Recommendation

Predictive AI focuses on analyzing existing data that can be used **for predictions and automation**

Generative AI

Maturity in 2022

Creation, Reinvention

Generative AI focuses on learning a representation of artifacts from data and using it to **generate original artifacts** based on predicted sequences of information from a given prompt

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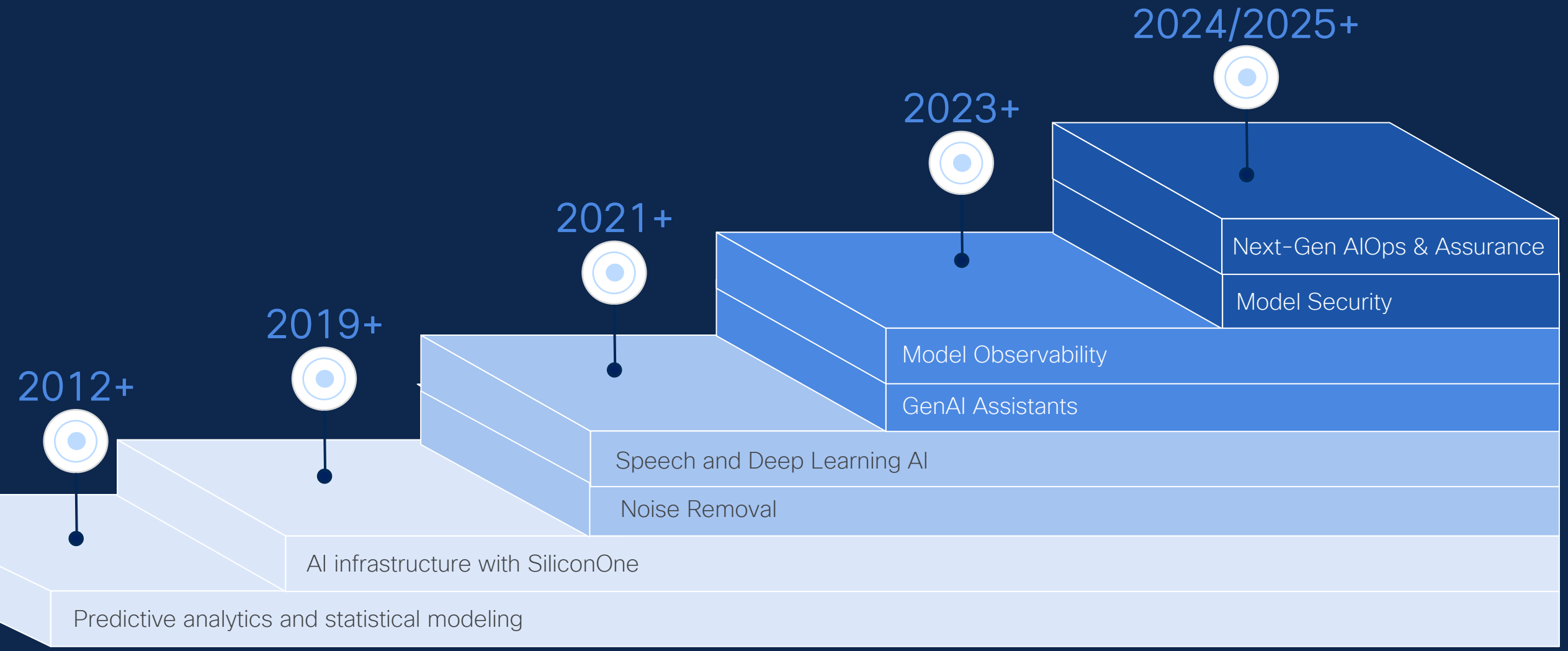
Cisco’s AI Evolution



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Bolstering our AI capabilities with acquisitions and investments

Acquisitions

Sampling of Cisco acquisitions with AI capabilities

Investments

Sampling of current portfolio companies with AI capabilities

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AI-driven portfolio today

AI

	Networking	Security	Collaboration	Observability	CX
Generative AI	• Enabled by Silicon One Scheduled Fabric Ethernet Solution **In development:** • Next-gen AIOps • Next-gen Assurance **Long-term:** • Virtual Network Assistant (incl network config. generator)	**In development:** • AI Assistant Experience (incl. AI Assistant in Firewall, XDR and cross-portfolio) • Purpose-built LLMs • Autonomous Actions (incl. incident summarization, incident-response, playbook recommendation and automation)	• Language Intelligence incl. transcription, translation, captions • Webex assistant **In development:** • New Webex AI Assistant • Intelligent Contact Center • LLM Orchestration • Realtime Media Models incl. AI audio codec, super resolution video, etc.	• Model observability **In development:** • Prompt interface • AI assistant for summarization	• Engineer copilots • Automated code creation • Customer Q&A & Sentiment analysis • Topology generation **In development:** • Test script creation • Root cause analysis **Long-term:** • Network risk analysis • Self-remediation • Product adoption advisory
Predictive AI	• Network Management • Network Assurance • Network Deployment • Anomaly Detection • Change Automation • Predictive Internet	• Email Compromise Analysis • Threat Detection • Endpoint Trust Monitor • Malware Protection **In development:** • Data Protection • Alert Prioritization	• Background noise removal • Voice focus • Bandwidth extension • People focus / frames • Personal/Team insights • Cinematic Meetings • Meeting Zones	• Statistical Modeling • Baselining • Anomaly Detection • Intelligent Automation **Long-term:** • Data Tagging	• Virtual Engineers • Analytics Engine • Anomaly Detection • Sentiment Prediction • Managed Insights • Change & Assurance (Services-as-Code) • CX Cloud – Insights & Analytics

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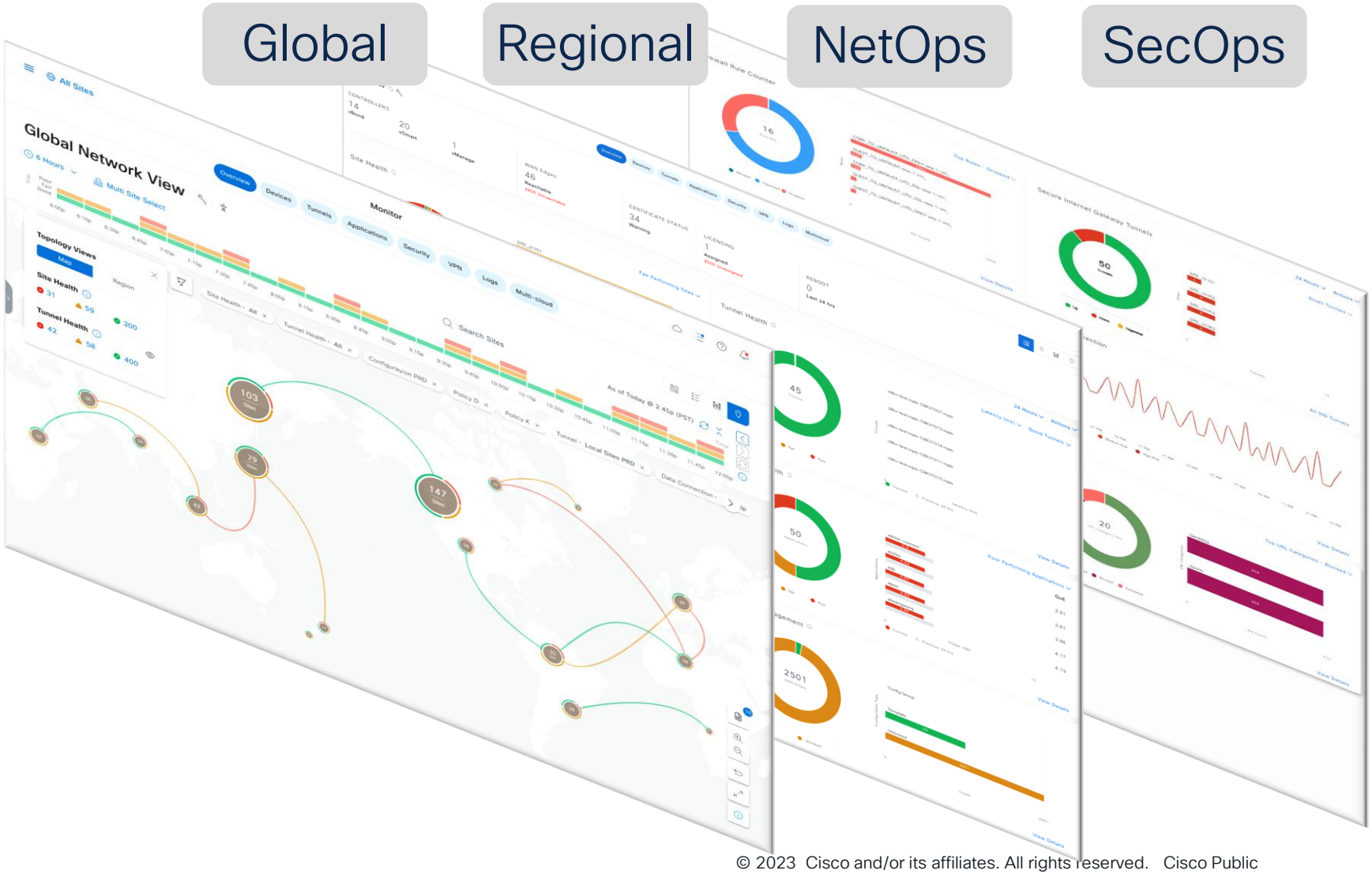
Catalyst SD-WAN Analytics

Powered by WAN Insights

Rich Monitoring using SD-WAN Manager and SD-WAN Analytics

- Overall Health
- Sites
- Devices
- Circuits
- Applications
- Clients



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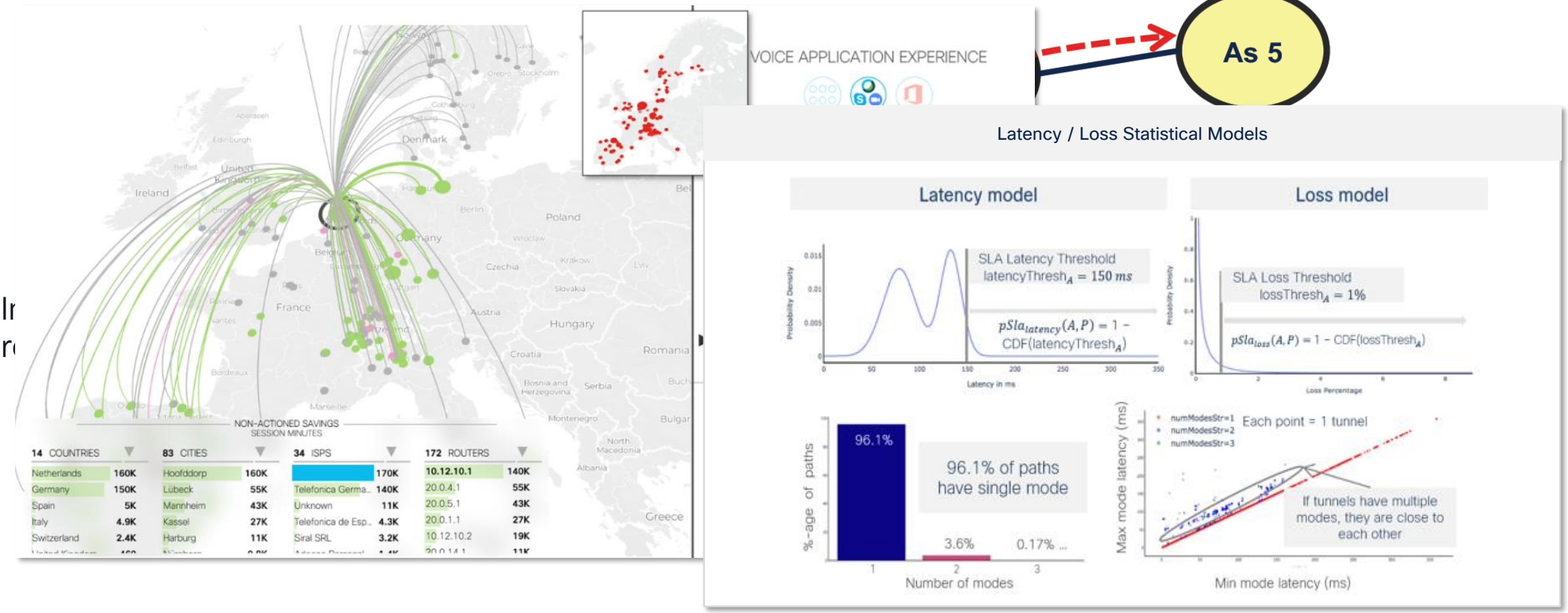
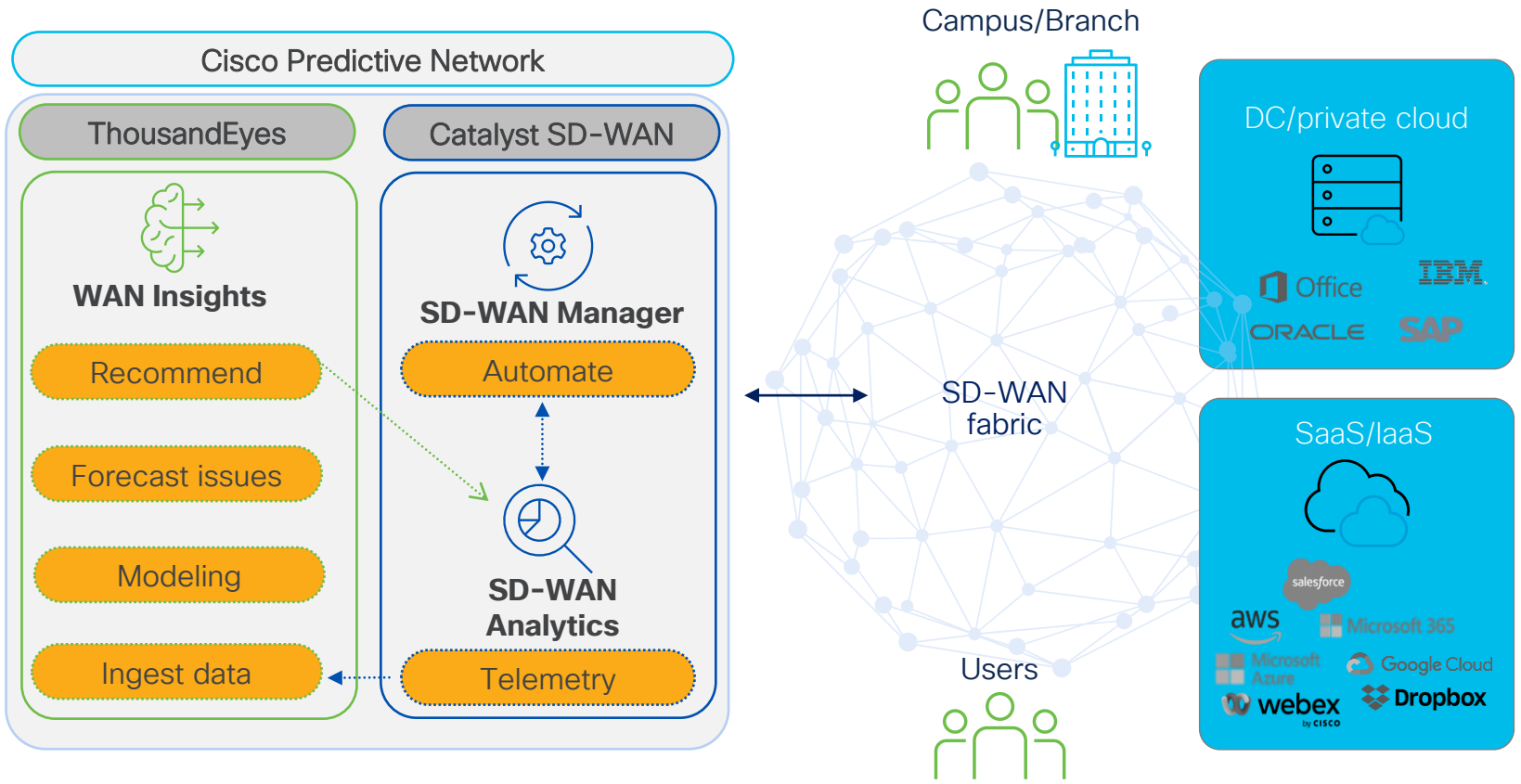
Predictive Networks :
Moving Networks from Reactive to Preventative



*WAN Insights received the 2023 Cloud Computing Product of the Year Award by TMC's Cloud Computing Magazine for its standout innovation

Predictive Path Recommendations

With closed-loop automation



Simplify operations with closed-loop automation

- Apply or Revert recommendation through simple click actions
- Automation available for Applications defined through Application-aware Routing (AAR) policy

Avoid issues before impacting users | Migrate to a predictive operating model | Establish a perpetual optimization cycle

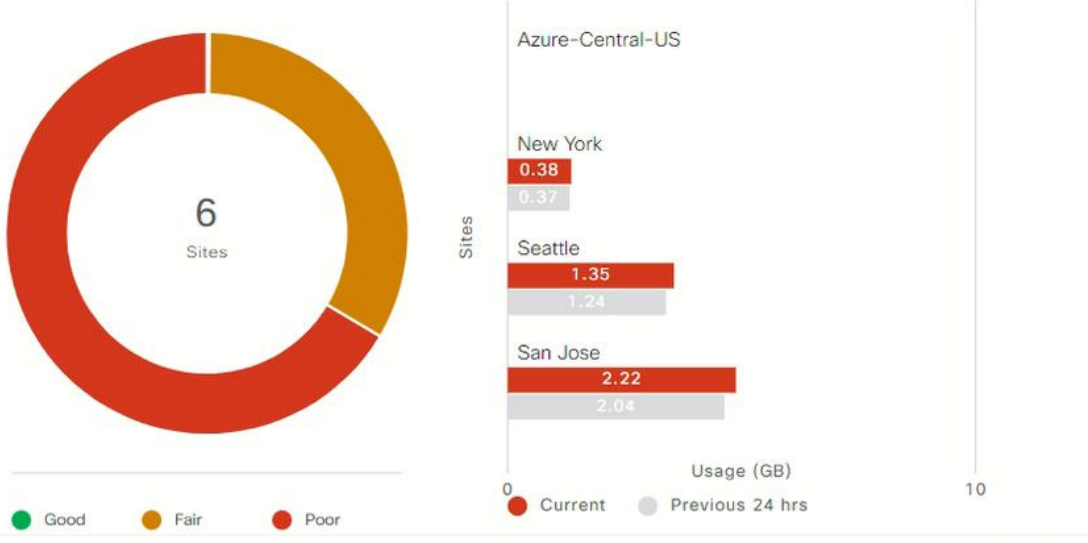
Overview

CONTROLLERS			WAN EDGES	CERTIFICATE STATUS	LICENSING	REBOOT
1	1	1	7	0	0	0
Validator	Controller	Manager	Reachable	Warning	Assigned	Last 24 hrs
					11 Unassigned	

24 Hours | Actions

Site Health

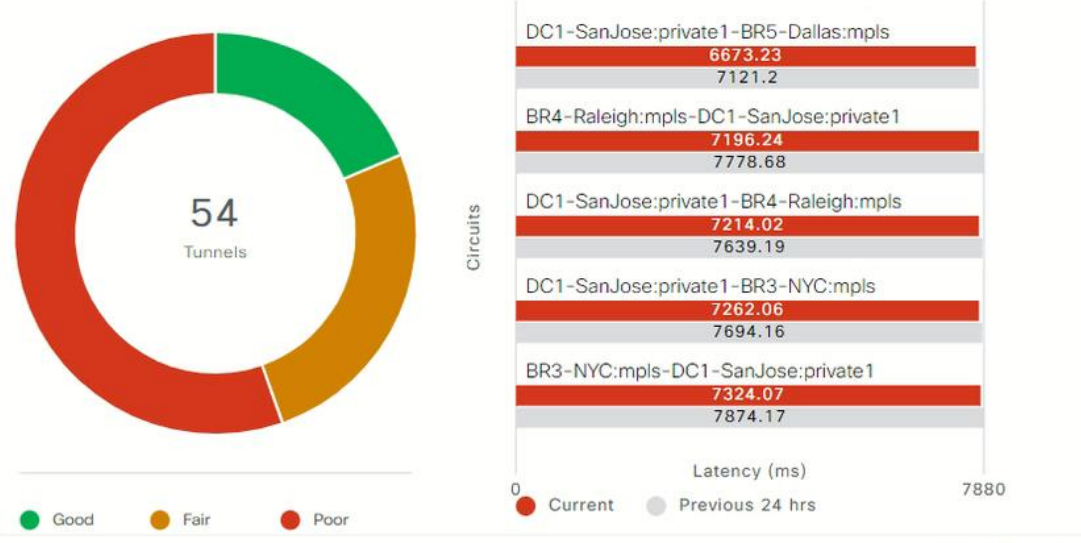
Poor Performing Sites



View Details

Tunnel Health

Latency (ms) | Poor Tunnels



View Details

Monitor - Overview Cisco SDW

Not Secure | https://tme-demo-vmanage.cisco.com/#/app/monitor2/overview

Cisco SD-WAN | Select Resource Group | All Sites | Monitor · Overview

Overview | Devices | Tunnels | Applications | Security | VPN | Logs | Multicloud

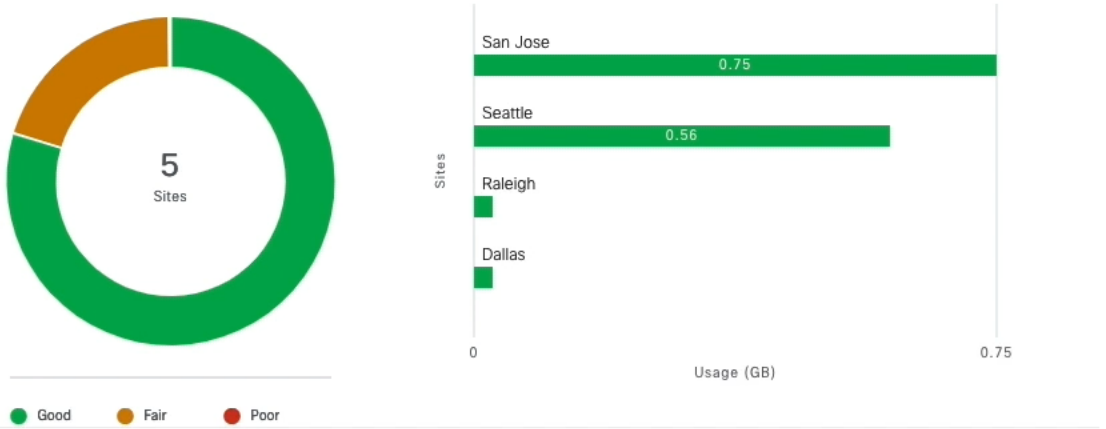
Overview

CONTROLLERS			WAN Edges	CERTIFICATE STATUS	LICENSING	REBOOT
1	1	1	5	0	0	0
vBond	vSmart	vManage	Reachable	Warning	Assigned	Last 24 hrs
					5 Unassigned	

24 Hours | Actions

Site Health

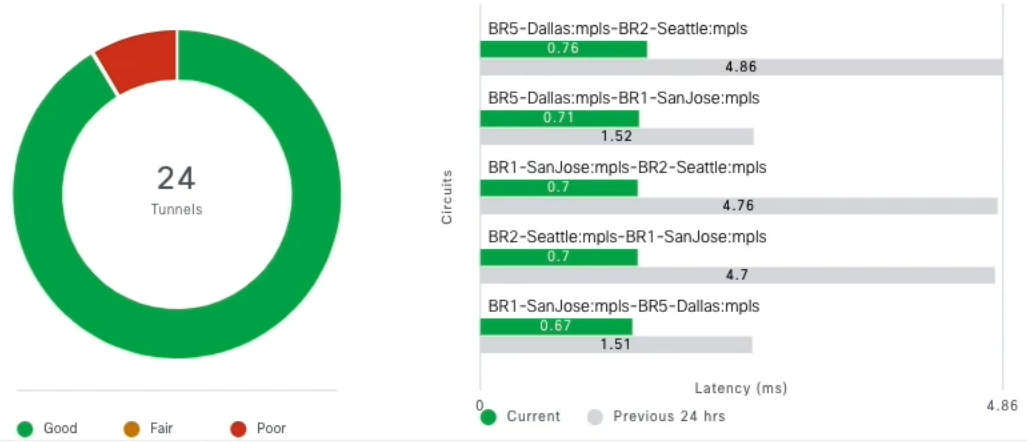
Good Performing Sites



View Details

Tunnel Health

Latency (ms) | Good Tunnels



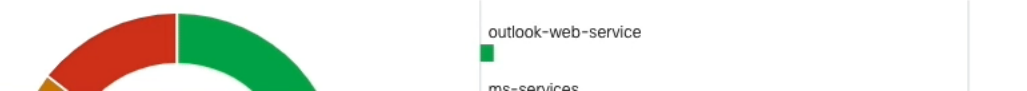
View Details

WAN Edge Health

CPU Load (%) | Fair Devices

Application Health

Good Performing Applications

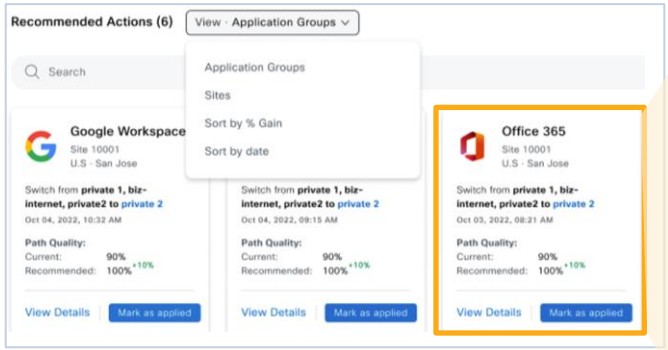


AIOps: Predictive Networks

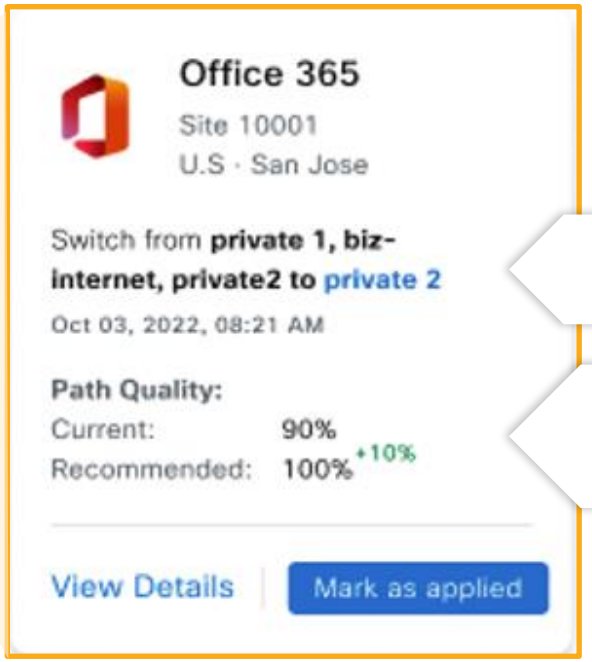
Powered by ThousandEyes WAN Insights (2022)

Forecast issues and make policy recommendations

1. Ingest Telemetry
2. Data Analysis
3. Feedback Loop



Transforming IT operations from a reactive to a **predictive model**



Recommends the path to switch to

Current & Recommended Path Quality with estimated % gain

Out-of-the-box Application Groups

Office 365 | Webex | Google Workspace | Salesforce | GoTo Meeting | Voice

- Included with SD-WAN DNA Advantage+ license; ThousandEyes Enterprise Agent not necessary

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Pourquoi ferais-je confiance à l'intelligence artificielle de Cisco?

1. Je peux visualiser simplement l'objet de la recommendation
2. Je peux voir dans le temps l'impact potential de la recommendation de l'IA
3.
   - Je peux passez en revue les caractéristiques de chemin associées, telles que la perte de paquet, latence et gigue qui sont à l'origine de la recommandation.

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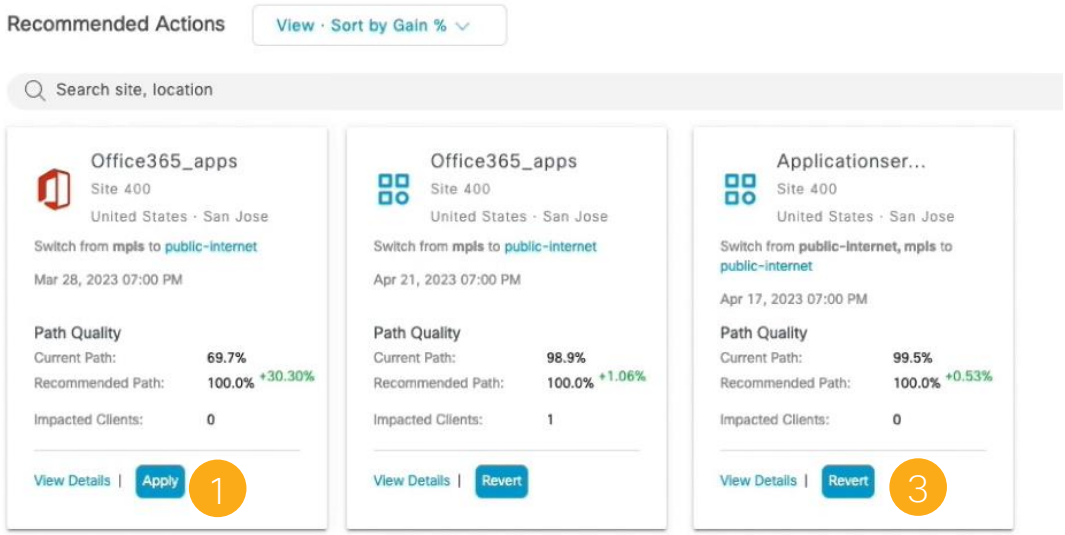
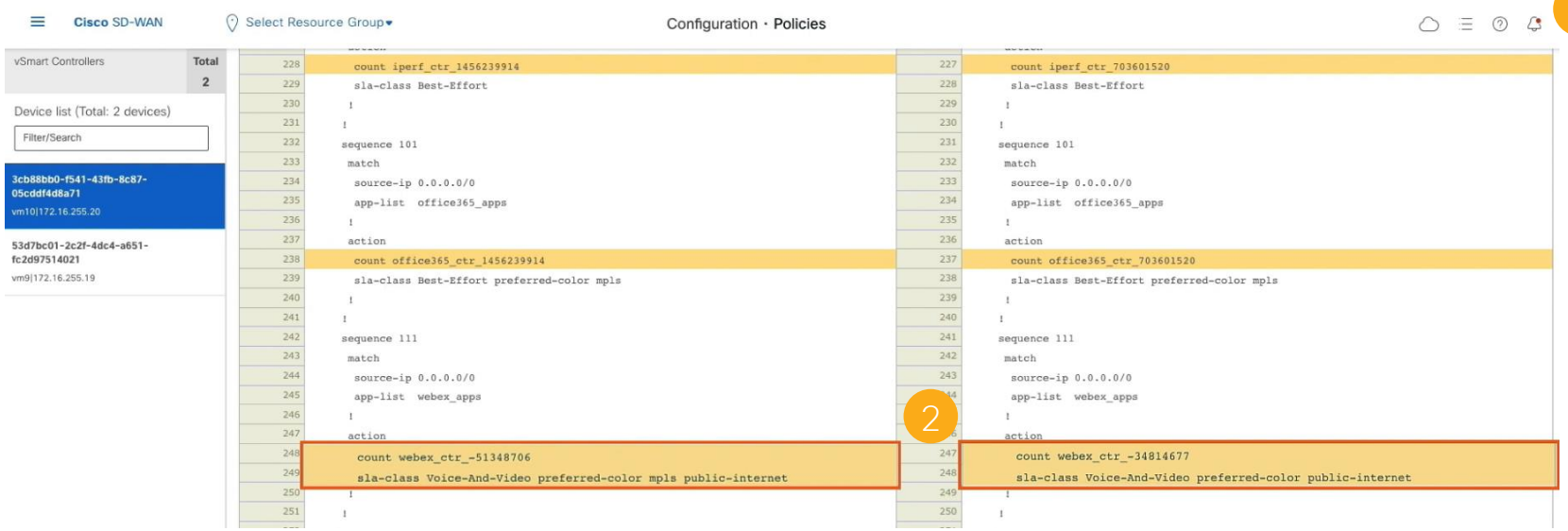
Pourquoi ferais-je confiance à l'intelligence artificielle de Cisco?





1. L'IA SD-WAN Analytics recommande une action, l'utilisateur choisi de l'appliquer ou pas
2. L'utilisateur peut visualiser le changement de configuration propose par l'IA
3.
   - L'utilisateur peut à tout moment faire marche arrière si il n'est pas satisfait du résultat

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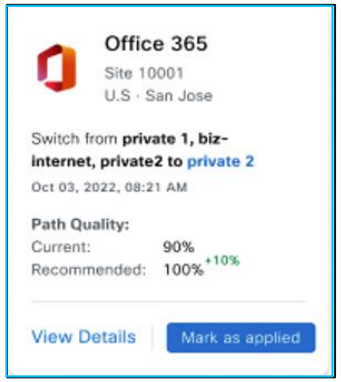
AI/ML Leadership for Optimal User Experience

Predictive Path Recommendations

AIOps **closed-loop automation** powered by WAN Insight

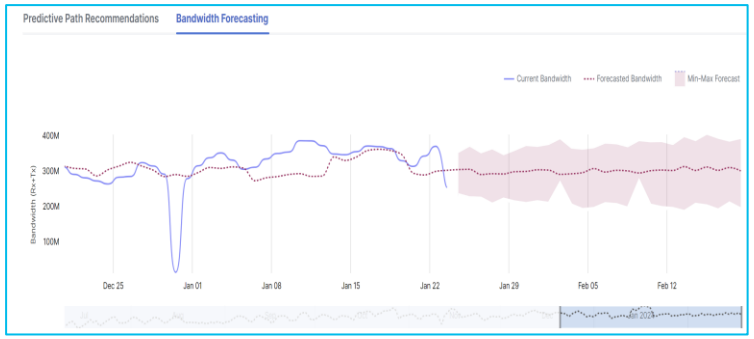


Forecast issues & make policy recommendations

Forecasting Future Bandwidth Needs

NEW

Capacity planning without the hassle

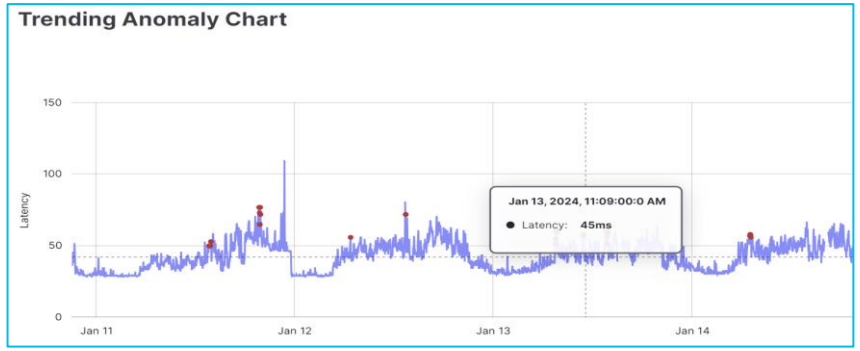


Currently in Private Preview
GA Target: Q1-CY24

Detecting Network Anomalies

COMING SOON

Proactively identify issues to resolve them quickly



Coming soon for Private Preview by mid-CY24

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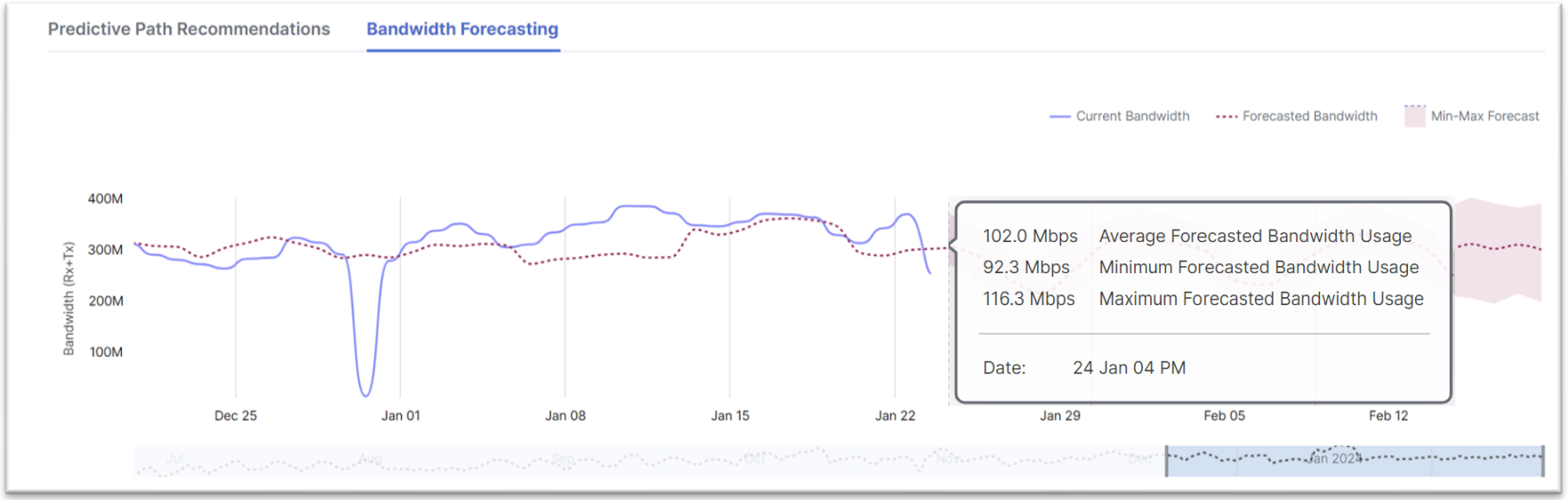
AIOps: Forecast future WAN Bandwidth needs

NEW



Currently available in Private Preview for select SD-WAN Analytics customers in US-West region

Benefits

- Helps organization with capacity planning

Highlights

- Track historical usage of individual links and forecast future usage (Top 50 links)
- Provide forecast for several weeks in future
- Compare historical and forecasted bandwidth usage

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AIOps: Anomaly Detection

Coming Soon*

*Tentative target by mid-CY24

Benefits

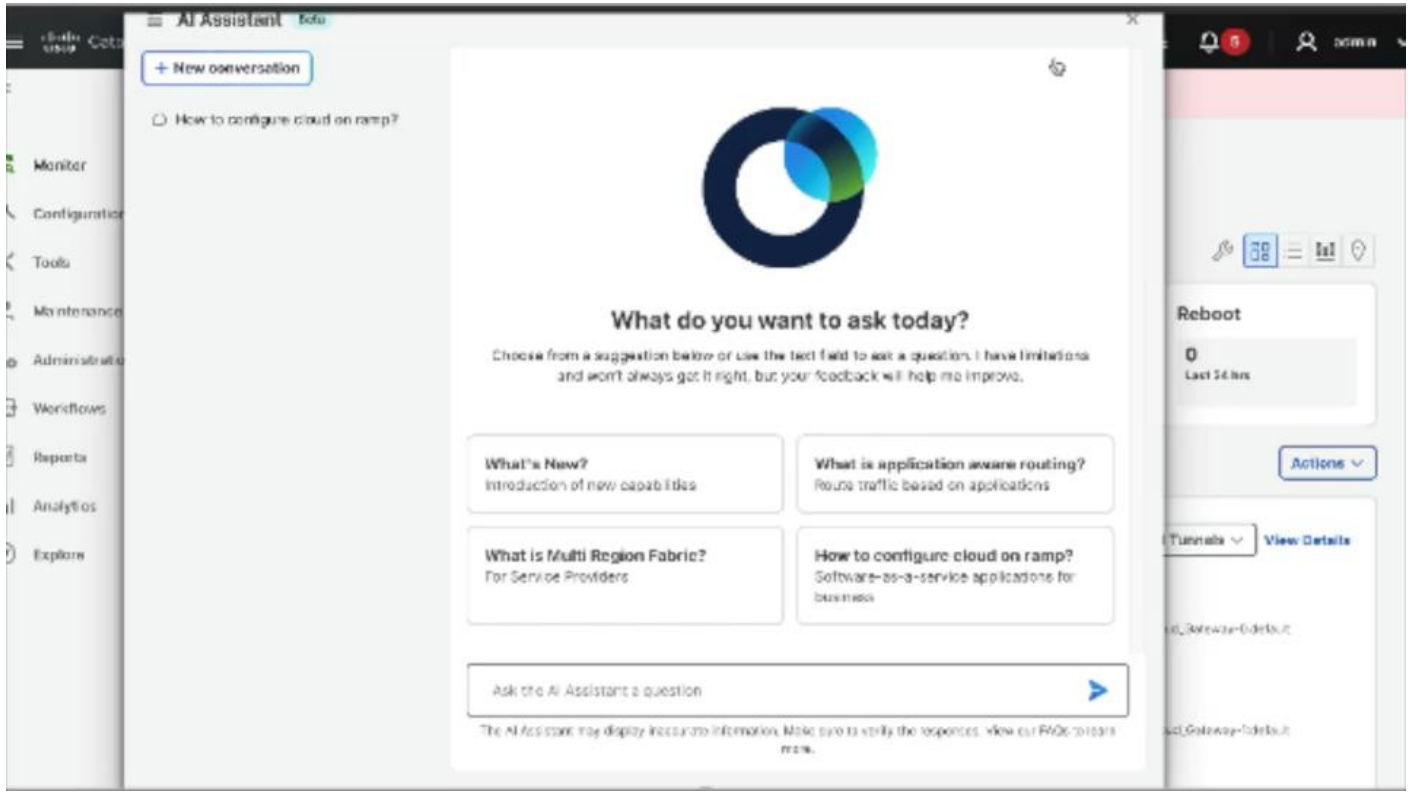
- Identify **network anomalies** & take proactive actions before issues occur

Highlights

- Identify anomalous patterns w/ network KPIs, such as loss, latency, & jitter
- Assess impact scope (sites, clients, tunnels)

AIOps: Cisco Network Virtual Assistant (Chatbot)

Coming Soon*



Benefits

- Interactive LLM-based Virtual Assistant
- Help with **feature-related user queries** w/ information fetched from documentation
- Help with **operational queries**, such as health information

Phase 1: Beta (Mar/Apr'24)

- Contextual help & query assistance – LLM trained on public documents
- Core fulfillment use-cases

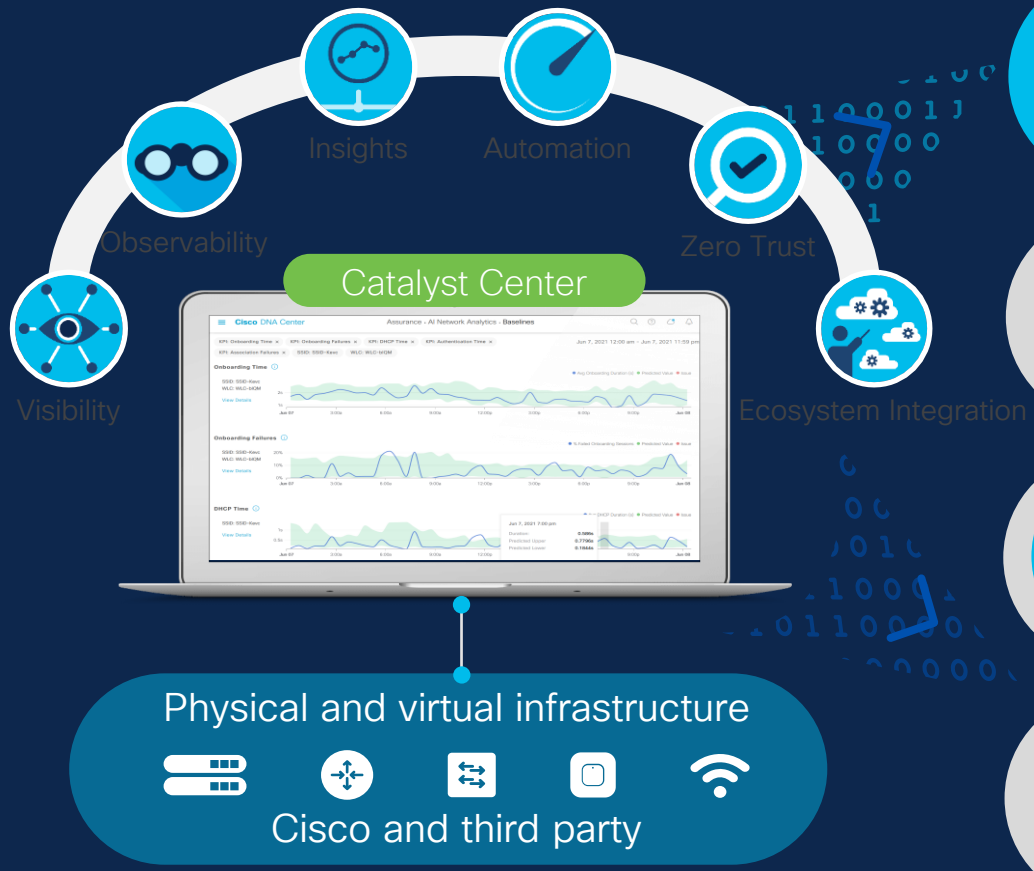
Phase 2: GA (mid-CY24)

- Handle most frequent level-1 troubleshooting workflows
- Multimodal response w/ embedded shortcuts & links to workflow for navigational ease

Catalyst Center AIOps

Catalyst Center

Provides that digital agility to drive network insights, automation, and security



AIOps

AI-driven visibility, observability, insights, and troubleshooting to ensure the health of your *users*, applications and infrastructure

NetOps

Automation to simplify the creation and maintenance of your networks with flexibility to move from manual to AI-assisted to *selectively autonomous* change mgmt

SecOps

AI-driven security to classify endpoints and enforce security policies for a complete *zero trust* workplace solution.

DevOps

Mature APIs, SDKs, and closed-loop integrations to untangle the complexities of *ecosystem integration*.

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Cisco AIOps
Technology Landscape

Machine Reasoning

- Capture human **knowledge** via semantic model (ontology) with concepts, relationships & rules
- **logical reasoning** to make inferences / conclusions

Use Cases

- **Network troubleshooting based on well-known troubleshooting exercise**
- Compliance checking
- Assisted Network Remediation
- Architecture : Expert knowledge-bases and network automation module

Machine Learning

- Build **probabilistic** model from big data.
- Make **data-driven** decisions or predictions.
- Detect and Root cause from predication model

Use Cases

- **Discover hidden insights in data**
- Behavioral/Trend analysis, Impact Analysis, Event Correlation, Predictive Analytics.

- Architecture
  Cloud-based, Global Big Data Analytics, using Cisco DNA Cloud Connector

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Catalyst Center AI/MRE

Machine Reasoning Engine

End to End

3. Knowledge Package

2. Knowledge Base

4. MRE runs on Cisco Catalyst Center

1. Subject Matter Experts

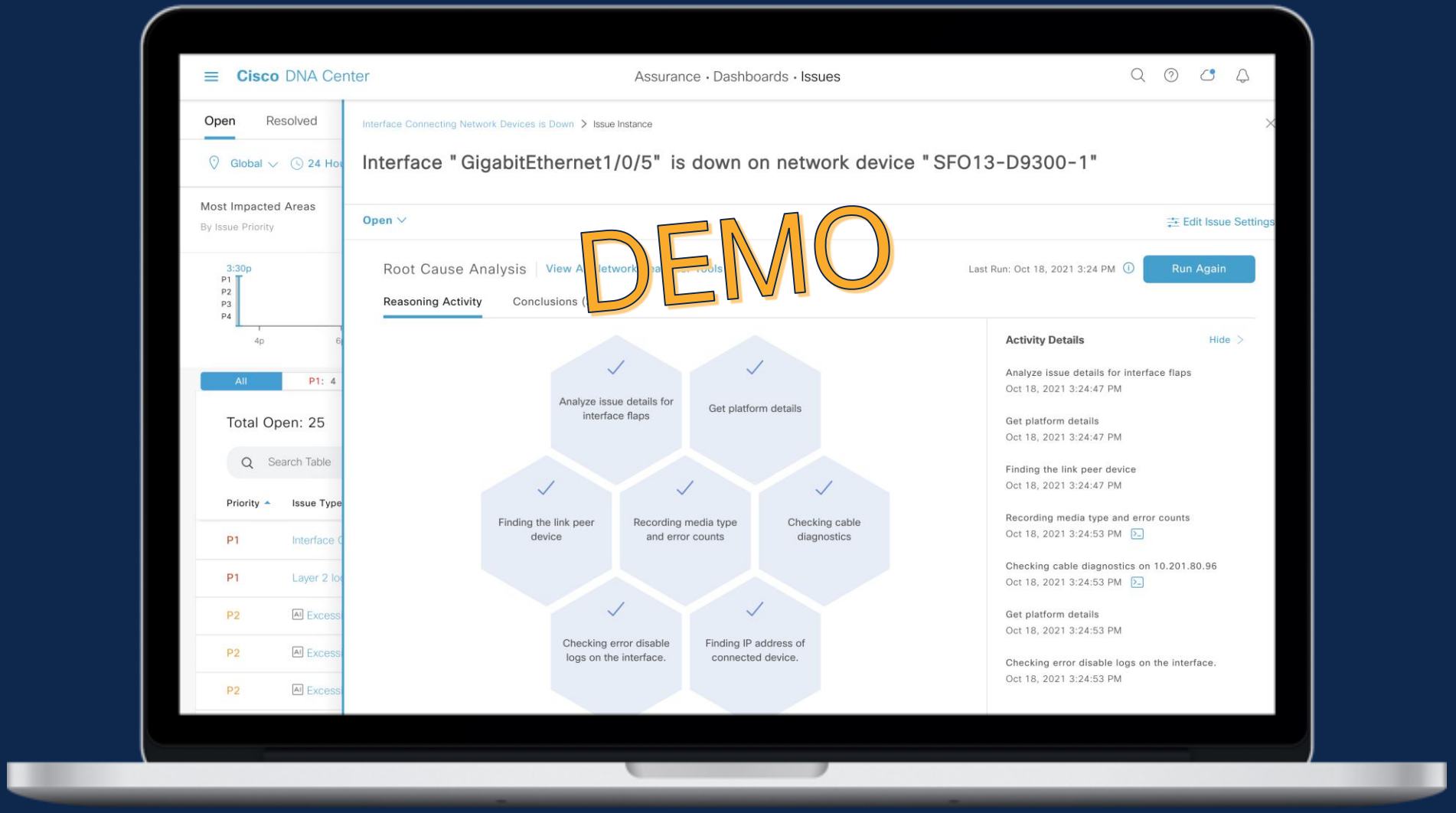
- Cisco
- Security Researchers
- Partners

Automated Troubleshooting

- STP Loop Detection
- Power Supply Failure
- Interface Down
- High CPU

Catalyst Center
AIOps

a Machine Reasoning Engine that is like having a 30-year Cisco expert in your pocket



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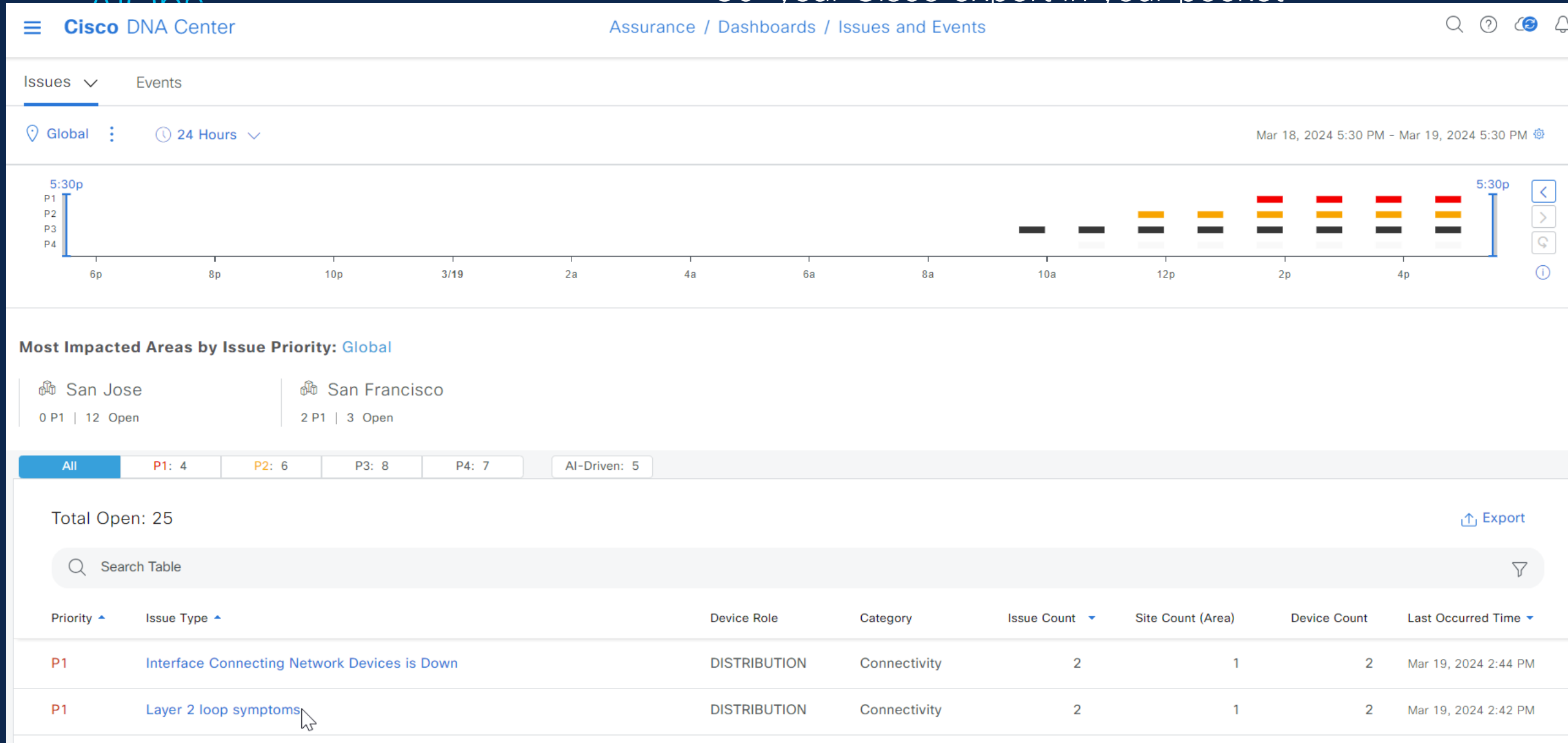

Catalyst Center AIOps

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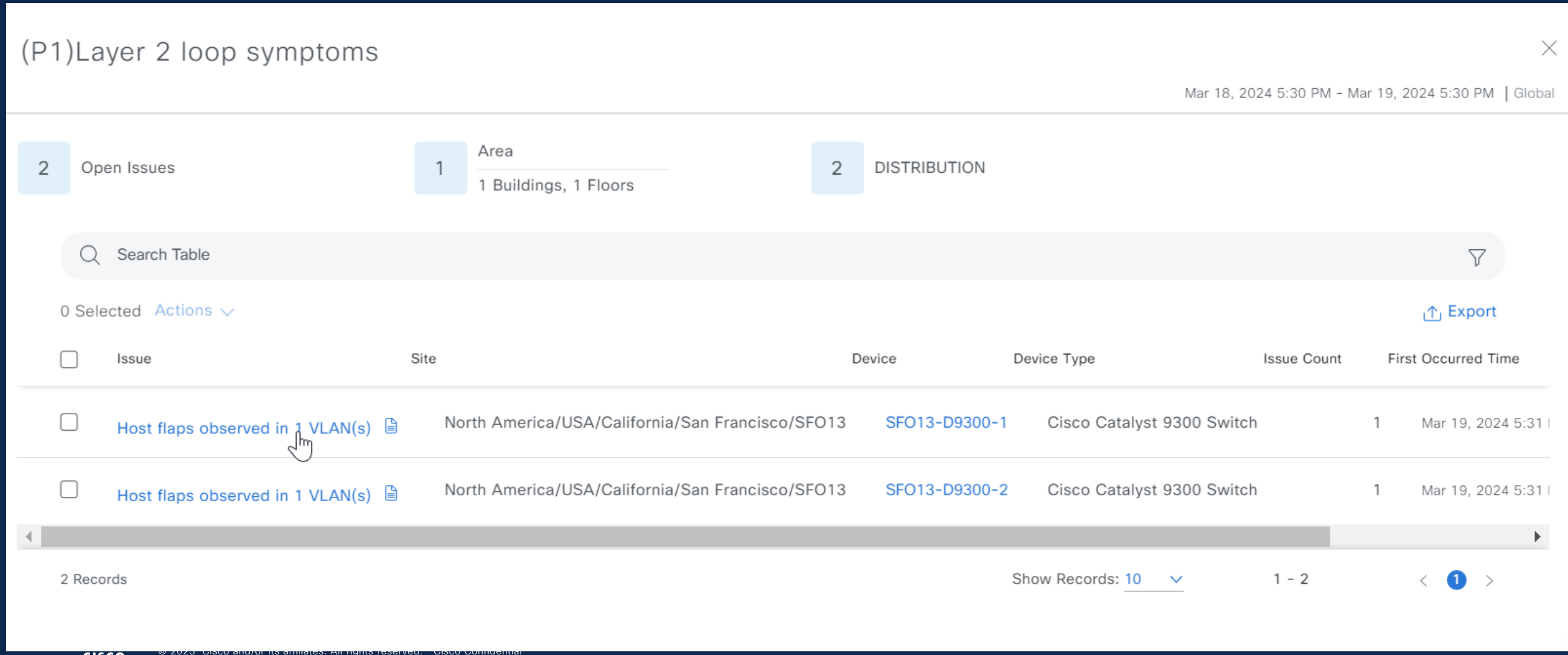

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P1 Host flaps observed in 1 VLAN(s)

Status:

Issue Profile: global Edit Issue Settings

Device	SFO13-D9300-1
Role	DISTRIBUTION
Time	Mar 19, 2024 5:31 PM
Location	Global/North America/USA/California/San Francisco/SFO13
Potential Root Cause	MAC_FLAPPING

INITIAL ASSESSMENT

1 VLANs in the Potential Loop

3 Ports in the Potential Loop

Problem Details
Root Cause Analysis MRE

Problem Details

Host MAC Address flaps are detected along with other events that are indicative of a STP loop. Go to Root Cause Analysis for detailed troubleshooting and see the exact impact and the devices involved in the loop.

Relevant Events

Potential Loop Details

Filter

Find

Device	Role	Port in loop	Duplex	VLAN in loop
SFO13-D9300-1	DISTRIBUTION	GigabitEthernet1/0/3	Full	--
SFO13-A3850-1	ACCESS	GigabitEthernet1/0/5	--	--

Assurance / Dashboards / Issues and Events

Device	SFO13-D9300-1
Role	DISTRIBUTION
Time	Mar 19, 2024 5:31 PM
Location	Global/North America/USA/California/San Francisco/SFO13
Potential Root Cause	MAC_FLAPPING

INITIAL ASSESSMENT

1 VLANs in the Potential Loop

3 Ports in the Potential Loop

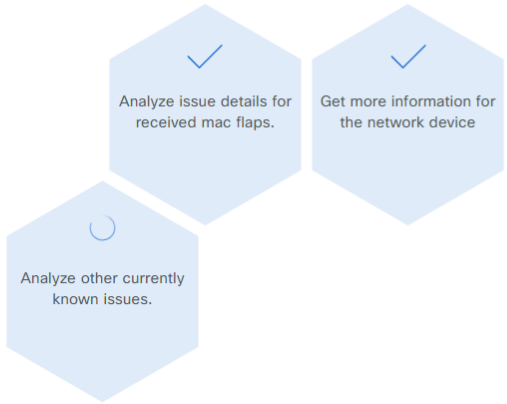
Problem Details

Root Cause Analysis MRE

Root Cause Analysis | View All Network Reasoner Tools

Stop

Reasoning Activity | Conclusions (0)



Activity Details Hide

Analyze issue details for received mac flaps.
Mar 19, 2024 5:32:35 PM

Get more information for the network device
Mar 19, 2024 5:32:35 PM

Problem Details

Root Cause Analysis MRE

Root Cause Analysis | View All Network Reasoner Tools

Reasoning Activity | Conclusions (1)

2	31	4eba-a181-952afa4fca46	D9300-2	GigabitEthernet1/0/24
3	31	21bd59ac-deaf-4ee8-a078-dae04d1655c0	SFO13-A3850-1	GigabitEthernet1/0/24
4	31	21bd59ac-deaf-4ee8-a078-dae04d1655c0	SF013-A3850-1	GigabitEthernet1/0/23
5	31	a977ab34-2b6d-442e-880c-ff09c3971ba8	SFO13-D9300-1	GigabitEthernet1/0/23

6 Records Show Records: 10 1 - 6

Suggested Action:

Enable VLAN 31 STP instance on these devices.

View Relevant Activities

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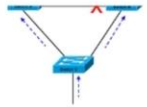
Machine Reasoning Engine Use cases

Automated Troubleshooting and Root Cause Analysis

Insight generation based on externally captured knowledge and aligned with best practices and validated designs

1. STP Loop Detection 
2. Power Supply Failure
3. Interface Down
4. High CPU
5. Ping Test
6. Fabric Data Collection

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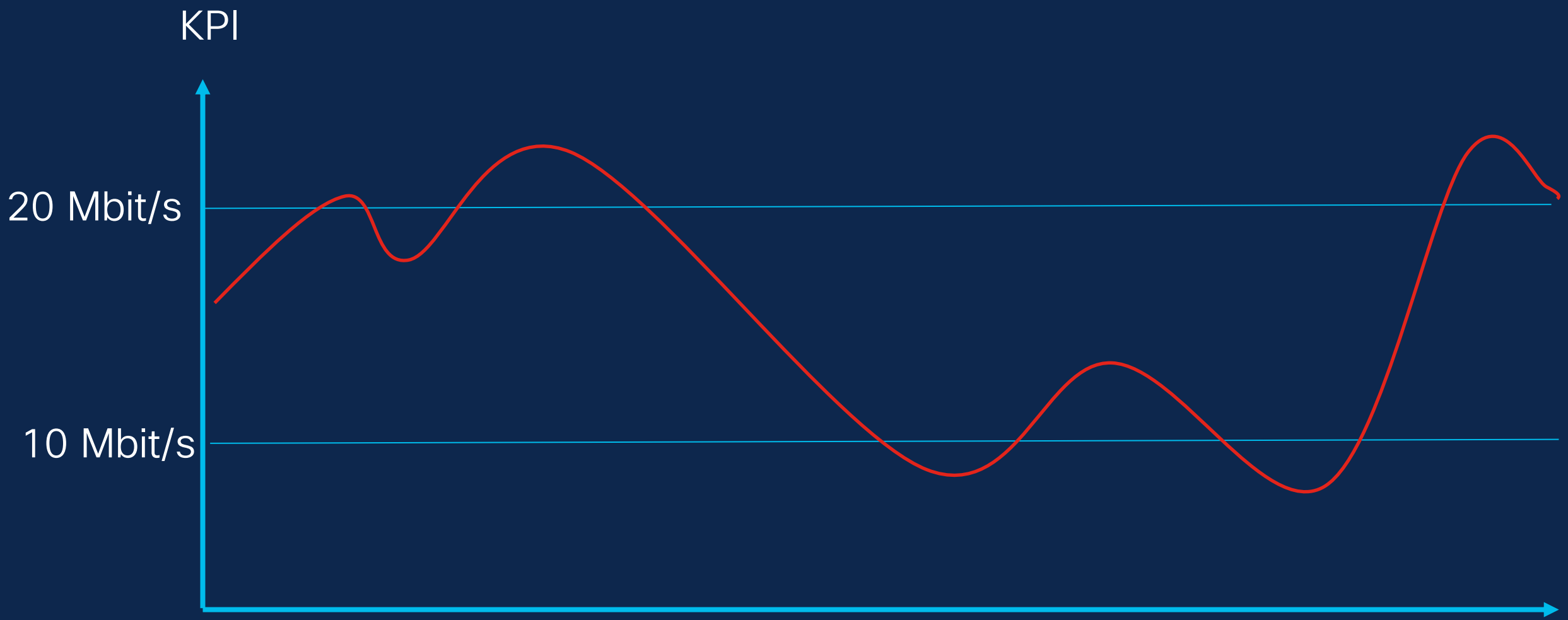
Catalyst Center AI/ML

Faut-il générer une alarme ?



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Proactive & Predictive Insights
Intelligent Analysis

Find Issues
Before Users Do

- Proactive Exploration
- System Generated Insights
- Peer-to-peer &
  Site-to-site Comparison

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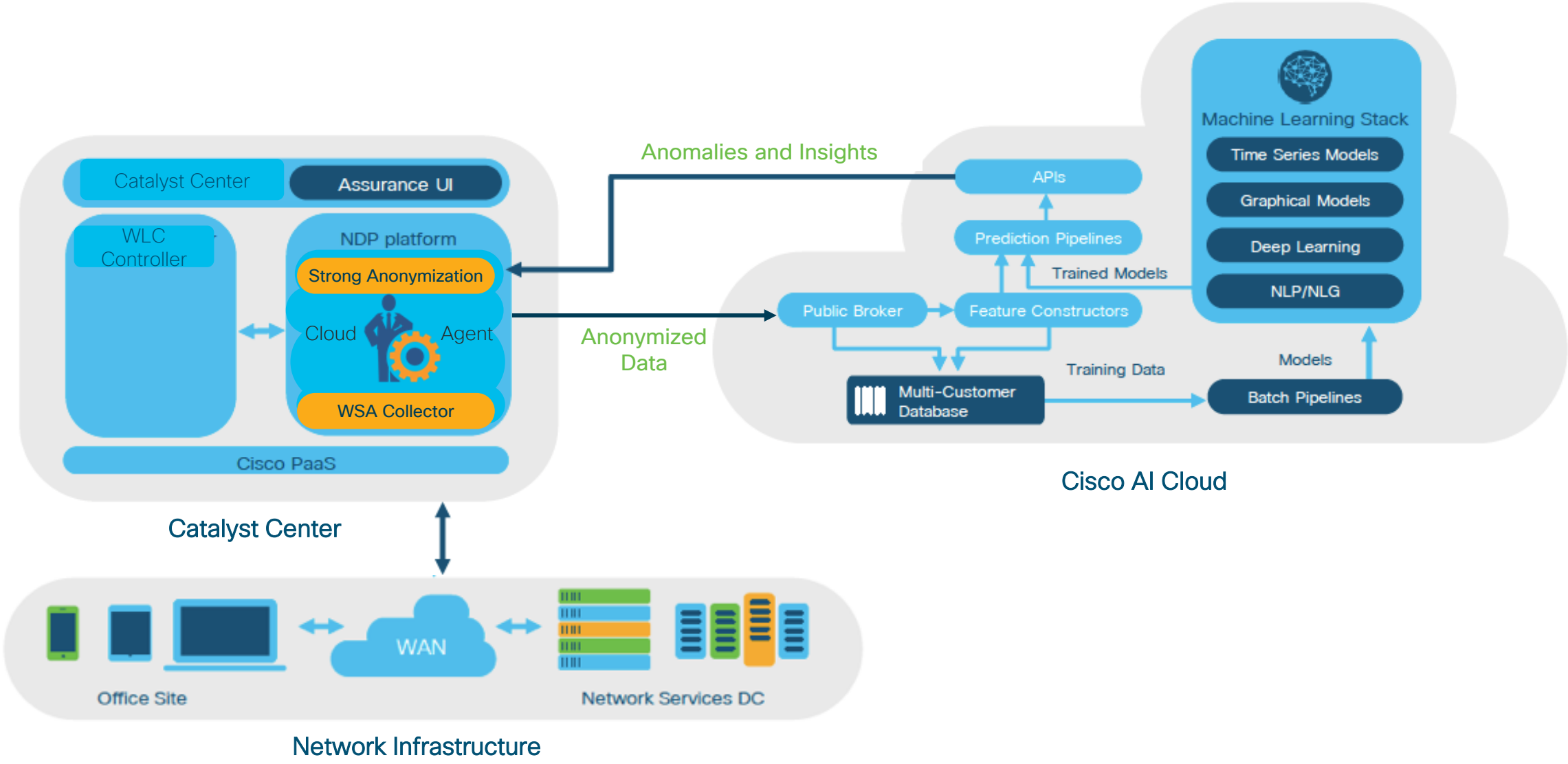
Catalyst Center AIOps AI/ML Architecture



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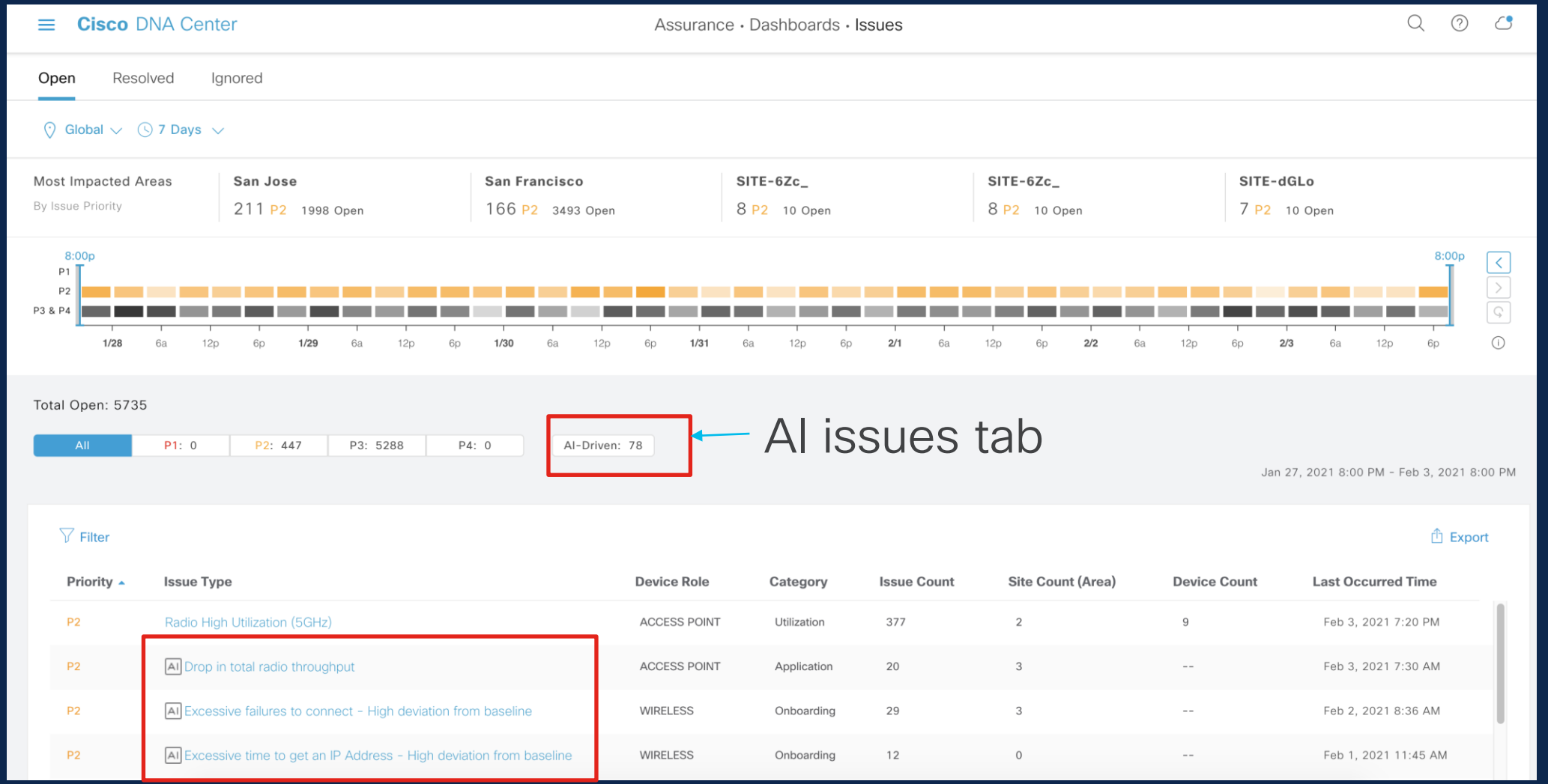
AI issues in issues dashboard

DEMO



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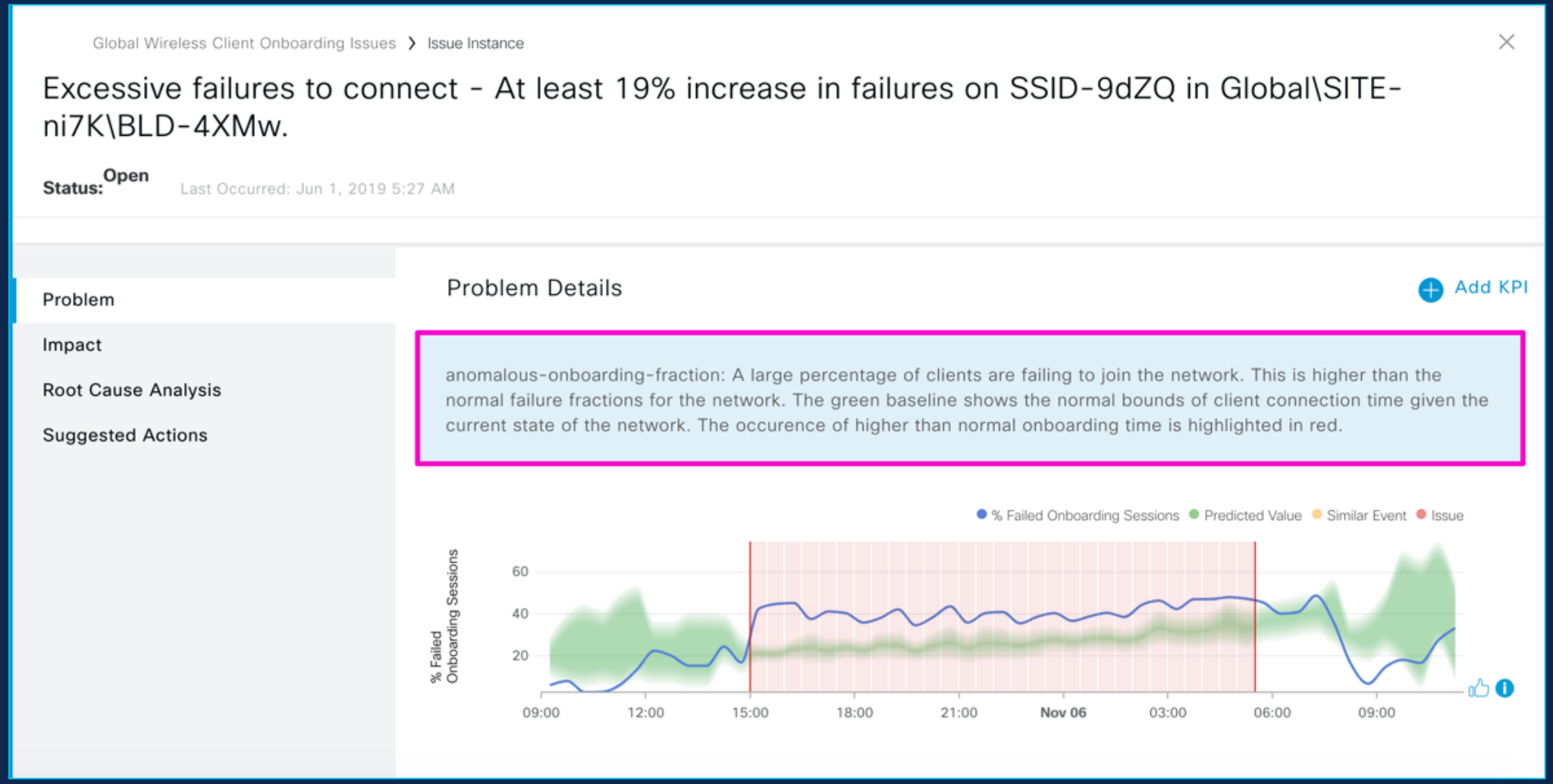
Identify “Green band”- normal condition as a result of AI Statistical modeling



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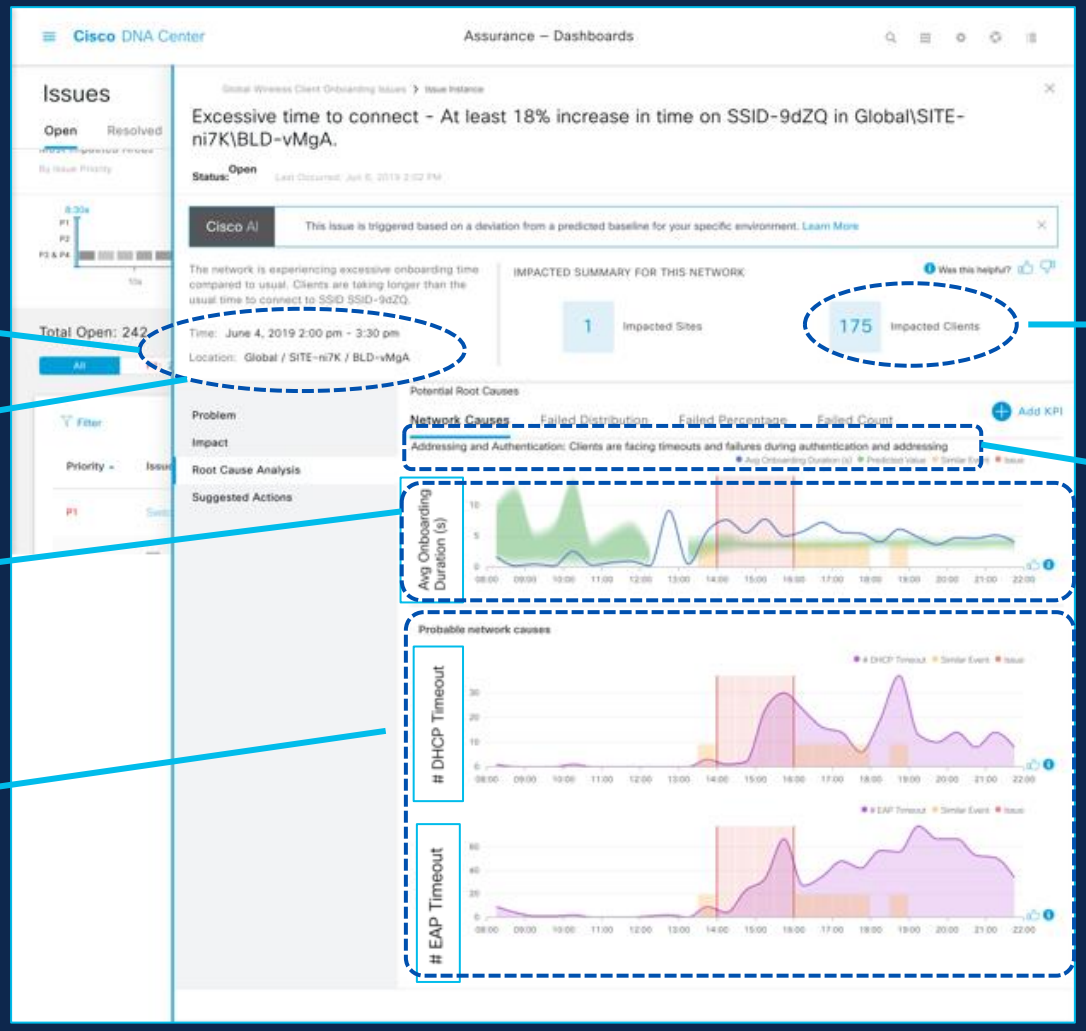
Root Cause Analysis –Identify Six Ws
Who / What / When / Where / Why / HoW



3 When

4 Where

6 How

5 Why

1 Who

2 What

"Clients are facing timeouts and failures during authentication and addressing"

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Cisco DNA Center

Assurance / Dashboards / Health

Overall | Network | Client | Network Services | Applications | SD-Access | AI Analytics

Global | 24 Hours

Mar 18, 2024 9:00 AM - Mar 19, 2024 9:00 AM

Actions

Network Devices

LATEST 83% Healthy TOTAL: 121

Router	Core	Distribution	Access	Wireless Controller	Access Point
12/13	7/8	8/12	32/37	7/9	36/42

View Network Health

Wired Clients

LATEST 95% Healthy CONNECTED: 55

Wireless Clients

LATEST 90% Healthy ACTIVE: 249

View Client Health

Site Analytics

Data For: Mar 18, 2024 7:00 AM - Mar 19, 2024 7:00 AM

Onboarding Attempts	Onboarding Duration	Connection Speed	Roaming Attempts
97%	95%	71%	99%
1. San Jose (24%)	1. San Jose (24%)	1. San Jose (71%)	1. San Jose (62%)

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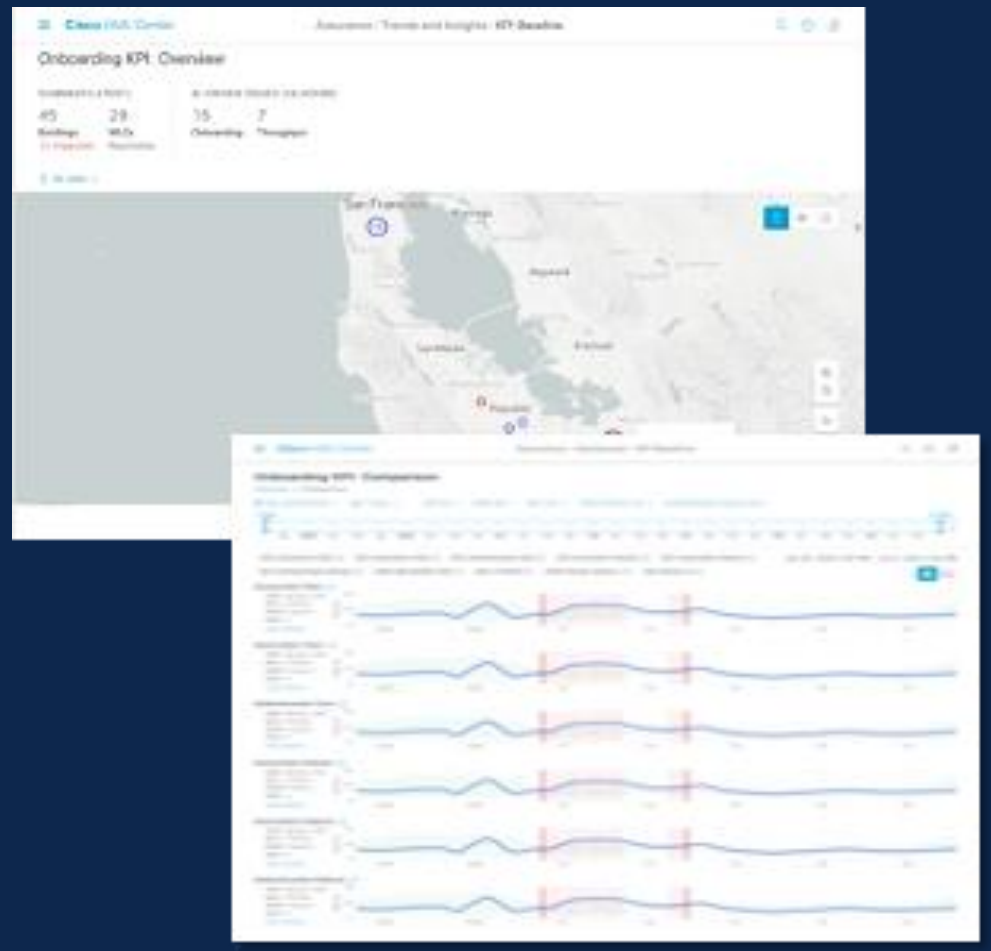
Baseline Dashboard

DEMO



Customer Pain Points

- .Network engineers don't have visibility into client onboarding experience across different locations in network and history of deviations from baselines.

Product Capability

- Dashboard view of onboarding KPIs with issue overlays going back up to 2 weeks
- Identify SSIDs and buildings that need extra attention based on aggregated deviation details for the selected time period

Customer Benefit

- Single pane of glass to view the predicted onboarding performance KPIs (baselines) across every building and SSID combination

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Cisco DNA Center

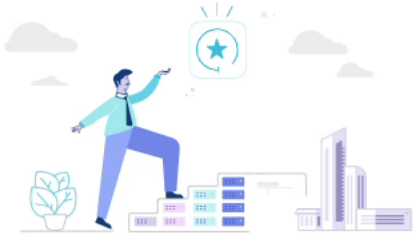
Welcome, dCloud Demo

Explore

Actuate the most value from your Cisco DNA Center with the adoption journey map.

Here you can accelerate feature adoption with simplicity and time to value, as you guide your organization on its digital transformation journey with Cisco DNA Center.

Begin your Journey



Assurance Summary

Health

Healthy as of Mar 19, 2024 9:37 AM

83%	90%	95%
Network Devices	Wireless Clients	Wired Clients

View Details

Critical Issues

Last 24 Hours

4	6
P1	P2

View Details

Trends and Insights

Last 30 Days

4	5
AP Performance Advisories	Trend Deviations

View Details

Network Snapshot

Sites

As of Mar 19, 2024 9:55 AM

Network Devices

As of Mar 19, 2024 9:55 AM

Application QoS Policies

As of Mar 19, 2024 9:55 AM

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Network Overview

SUMMARY

62
Buildings
2 Impacted

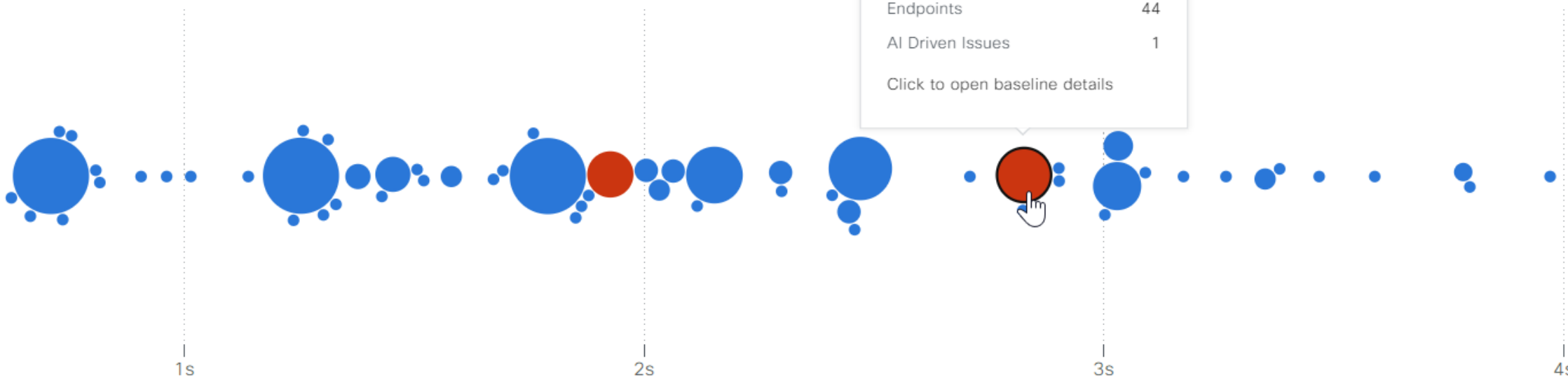
9
WLCs

AI DRIVEN ISSUES

2
Onboarding Issues

Global 24 hours

KPI: Onboarding Time

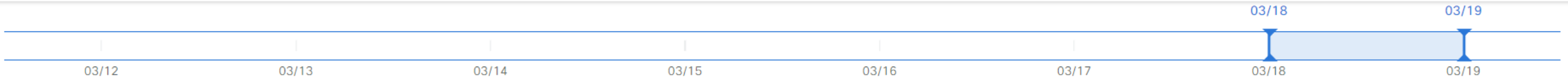


Baseline Dashboard

DEMO

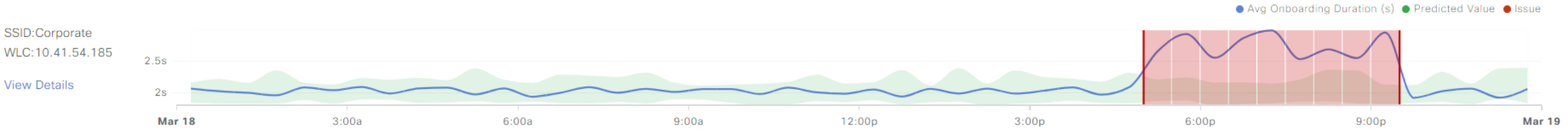
Cisco DNA Center

Assurance / AI Network Analytics / Baselines

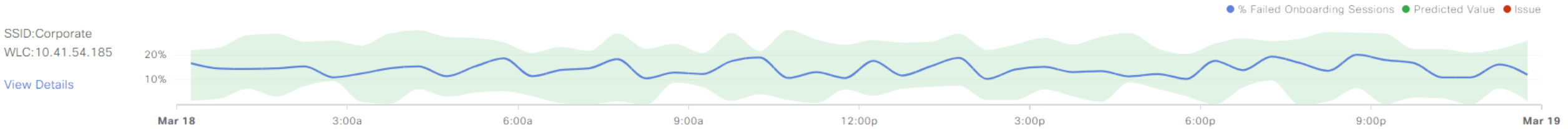


KPI: Onboarding Time × | KPI: Onboarding Failures × | KPI: DHCP Time × | KPI: Authentication Time × | KPI: Association Failures × | SSID: Corporate | WLC: 10.41.54.185 | Mar 18, 2024 12:00AM - Mar 18, 2024 11:59PM

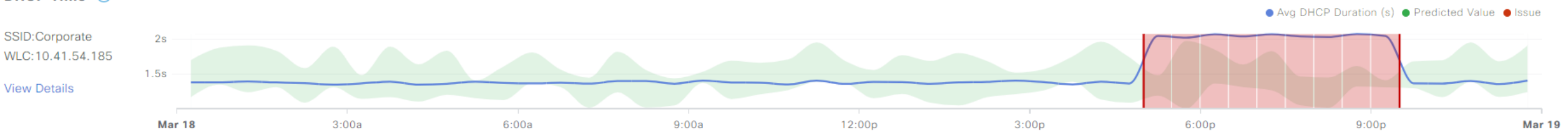
Onboarding Time



Onboarding Failures



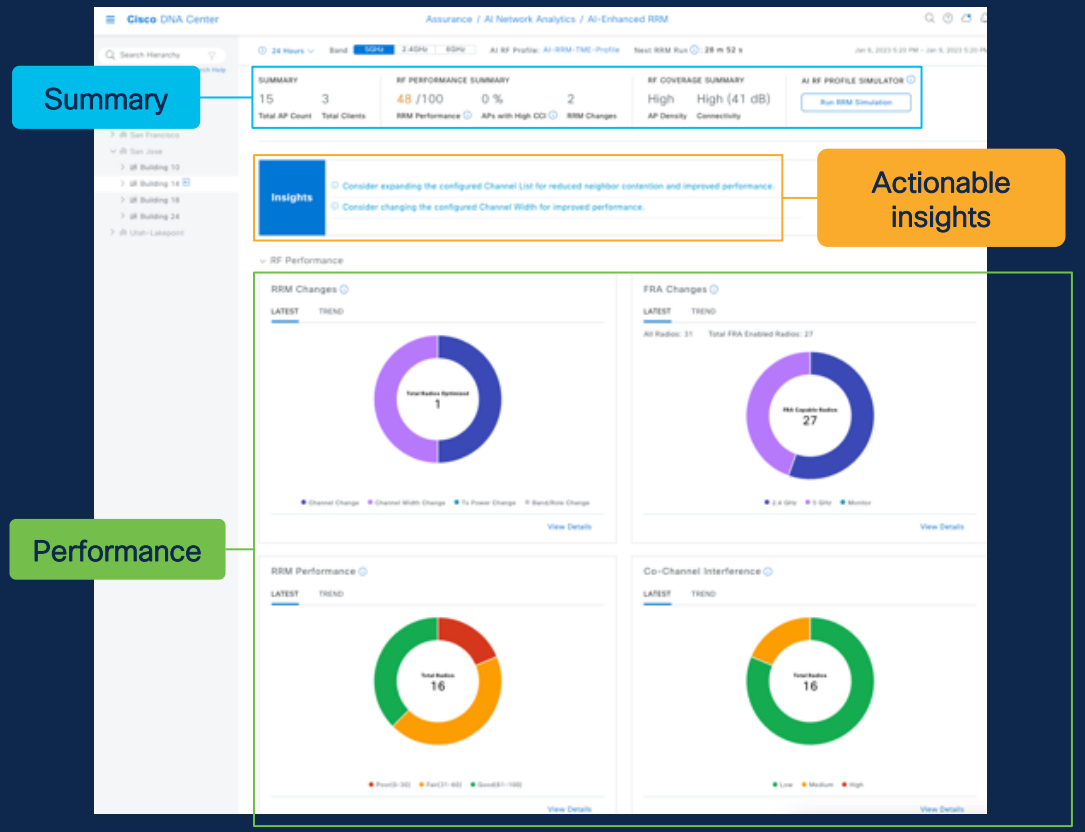
DHCP Time



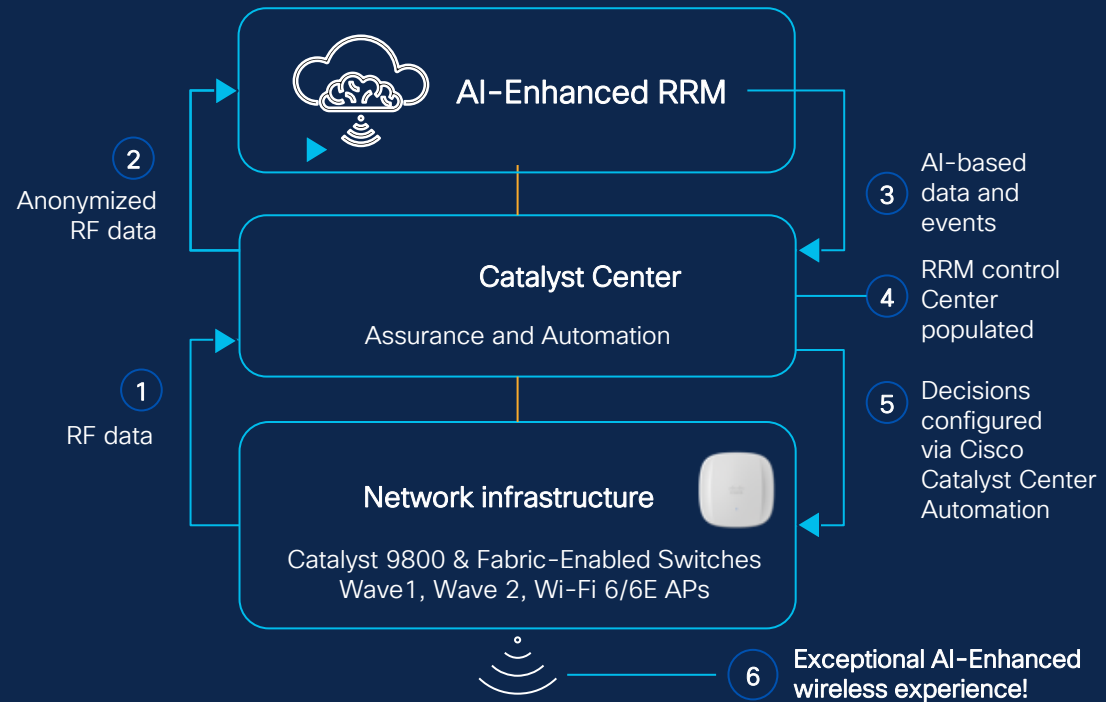
AI-Enhanced RRM is AI that Powers RF Optimization

Provides Users with Better Wi-Fi and Admins with a Better RF Management Experience!

Instantaneous visibility



Proactive optimizations



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What is radio resource management?

RRM is a Wireless Controller (WLC) feature that automatically optimizes wireless configurations to improve wireless performance.

Some examples

- Flexible Radio Assignment (FRA)
- Transmit Power Control (TPC)
- Dynamic Channel Assignment (DCA)
- Dynamic Band Selection (DBS)

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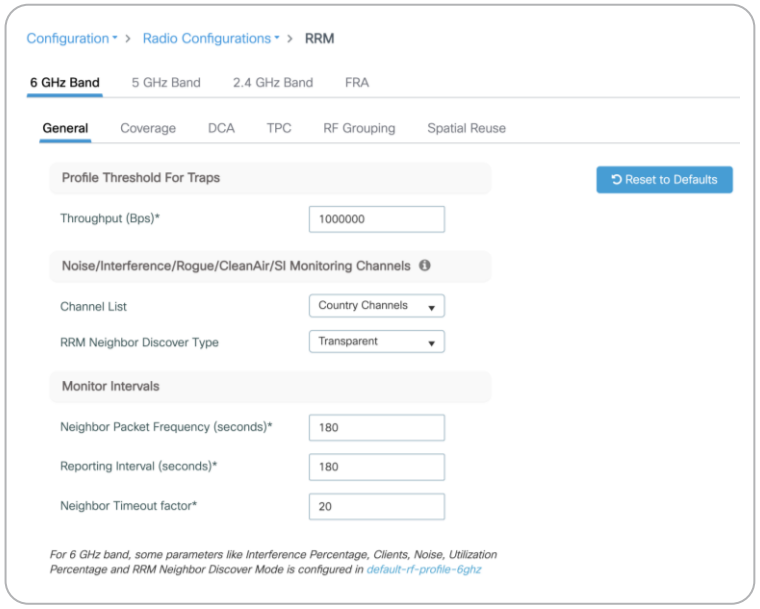
Traditional RRM

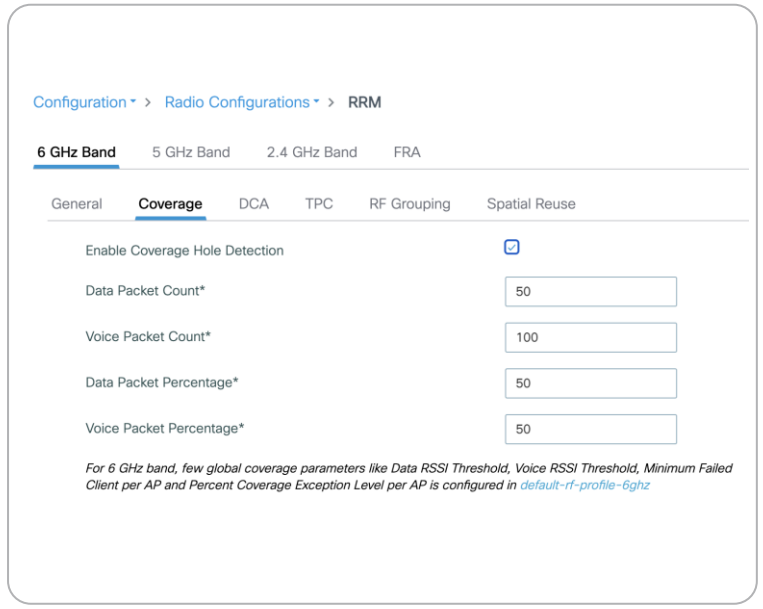
Requires Expert Tuning

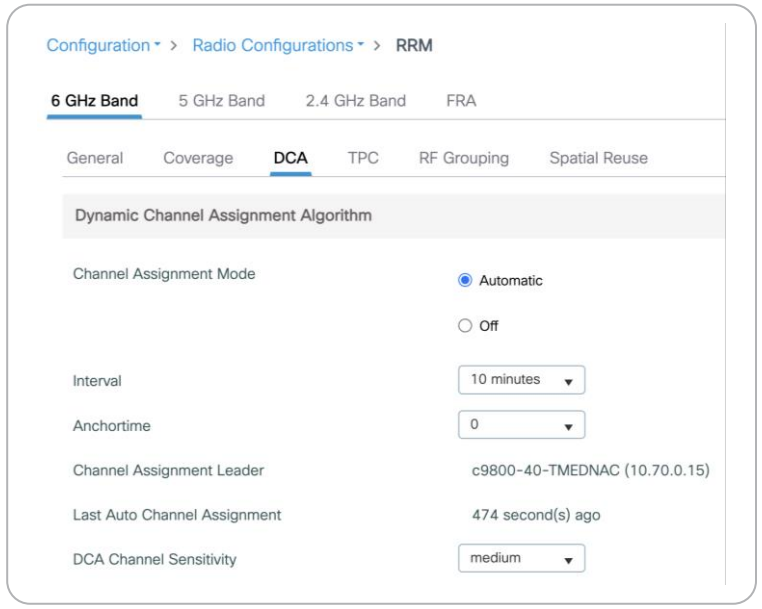
Lacks Visibility

Snapshot-Based Optimizations

RRM configuration on the Catalyst 9800 UI







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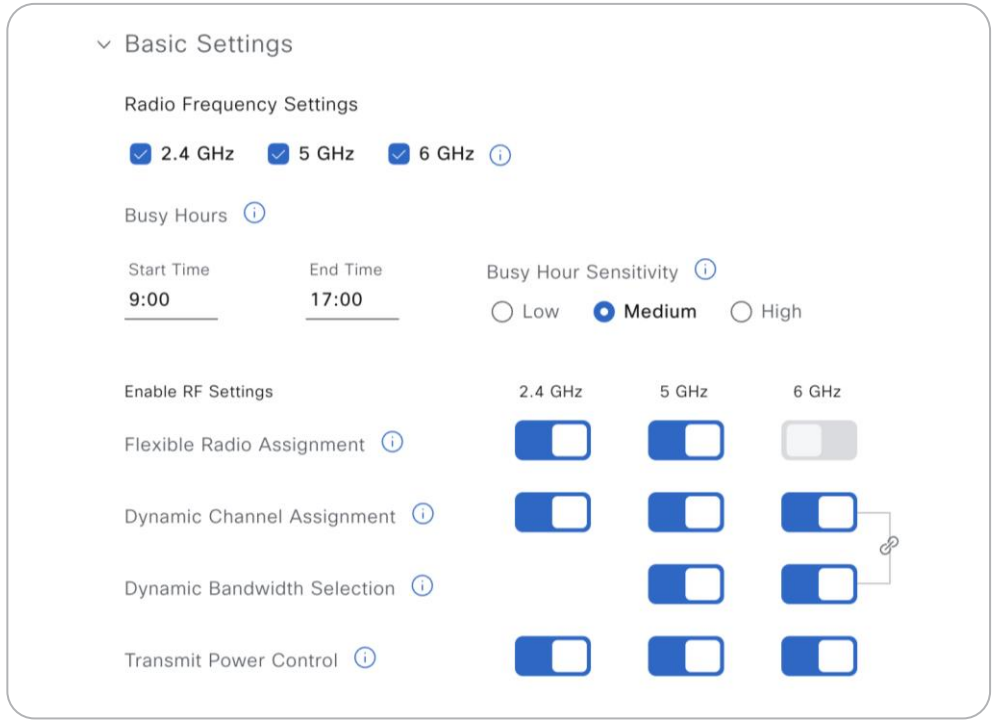
AI-Enhanced RRM

Simplified Configurations

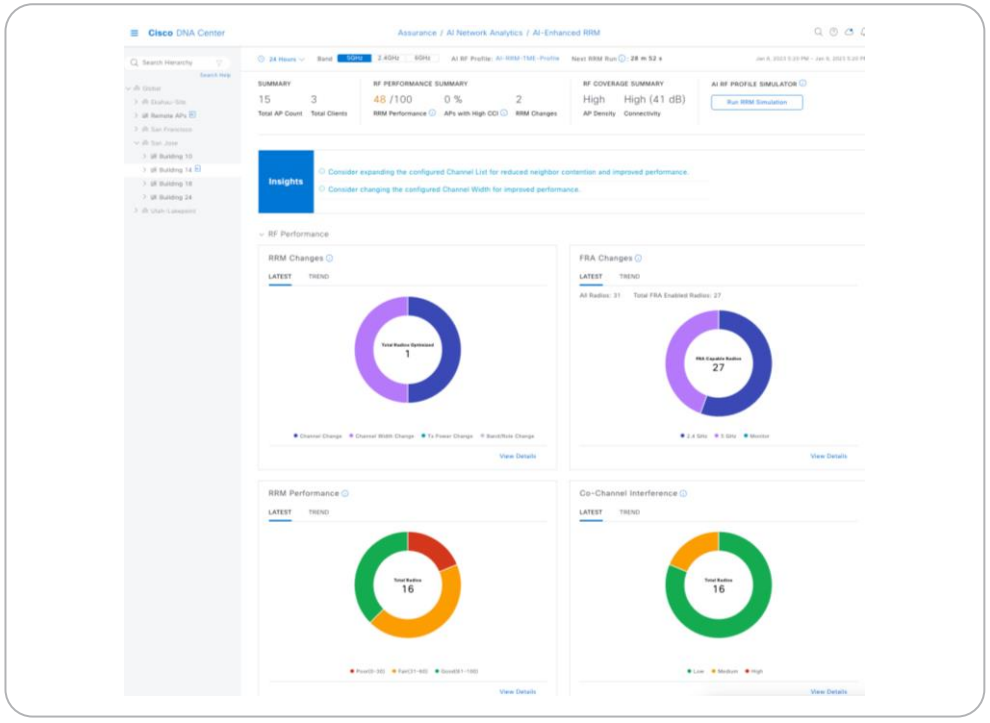
Complete Visibility

Trend-Based optimizations

AI RF Profile



AI-Enhanced RRM Control Center



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AI-Enhanced RRM is much better than traditional RRM

Easy Configuration, Complete Visibility, Improved Serviceability

DEMO

Optimizations are reactive and limited by WLC resources.	**Optimizations** are proactive and powered by Cisco's AI Cloud.
Configurations require tuning by wireless experts.	**Configurations** are simplified and have AI-assisted recommendations.
Visibility into RRM decisions and benefits are limited.	**Visibility** into RRM decisions, per-site RF Analysis, recommendations and impacts on a dashboard.
Troubleshooting requires CLI access and knowledge of debug commands.	**Troubleshooting** made easy with a 30-day time travel and ability to download all CLI in a zip file.

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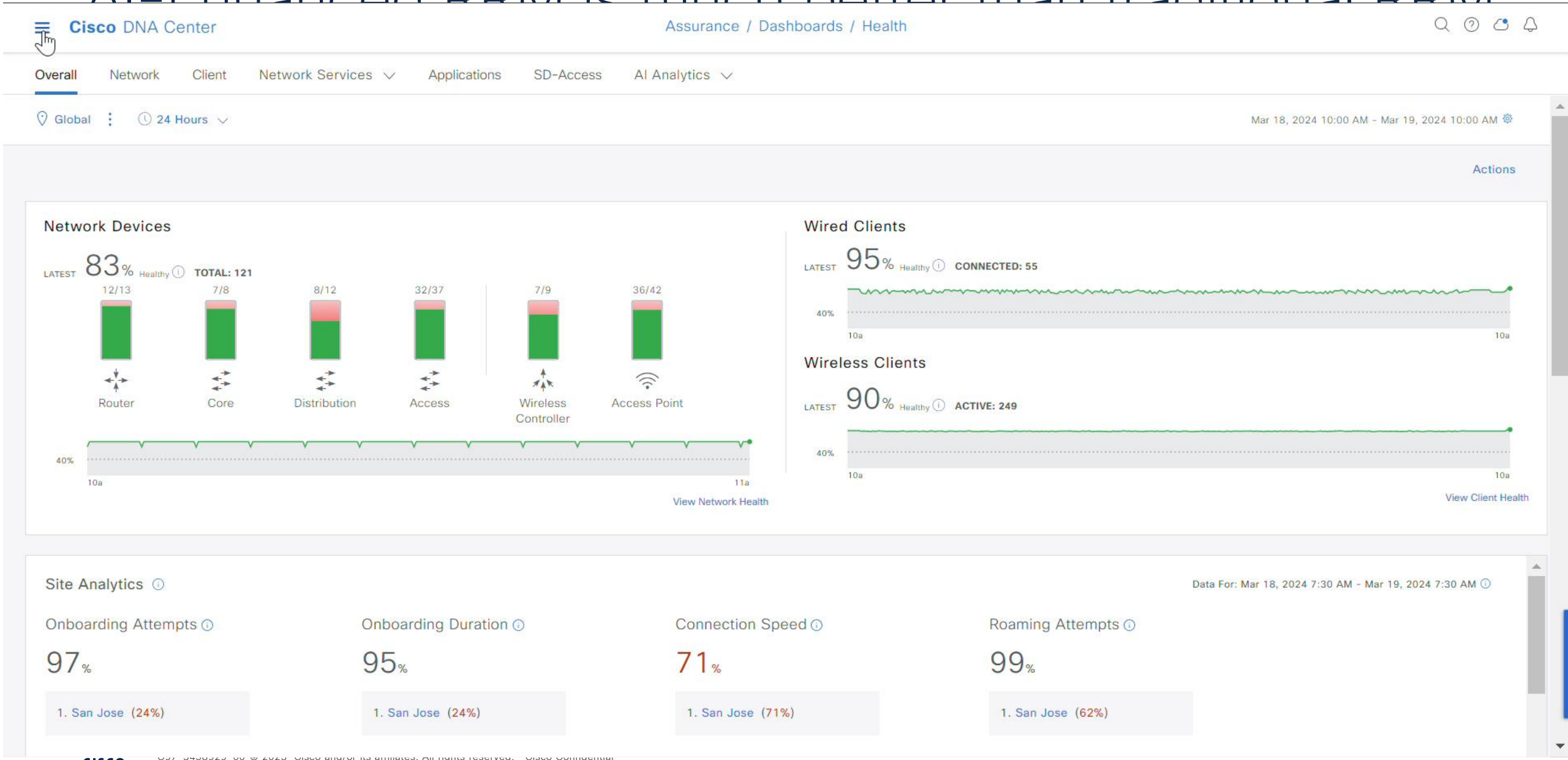
AI-Enhanced RRM is much better than traditional RRM



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AI-Enhanced RRM key customer benefits

Better RF, better insights, reduced operational costs and time

AI-driven self-optimizing RF

Leverages machine learning to find patterns and optimize your RF before issues happen.

Performance visibility

Provides per-building visibility into RF health using Wireless Config Analyzer algorithm.

Complete historical context

Understand exactly what RRM changes occurred at a per-AP level, and how they benefit the network.

Measured Improvements in RF KPIs!

- CCI Reduction: Up to 40%
- SNR Downlink Gain: Up to 7 dB
- RRM Changes Reduction: Up to 75% at busy hours

Actionable insights

AI-derived recommendations on RRM setting changes for a more optimal performance.

Simplified RRM configuration

Complicated traditional RRM configurations are simplified, with policy toggles and thresholds.

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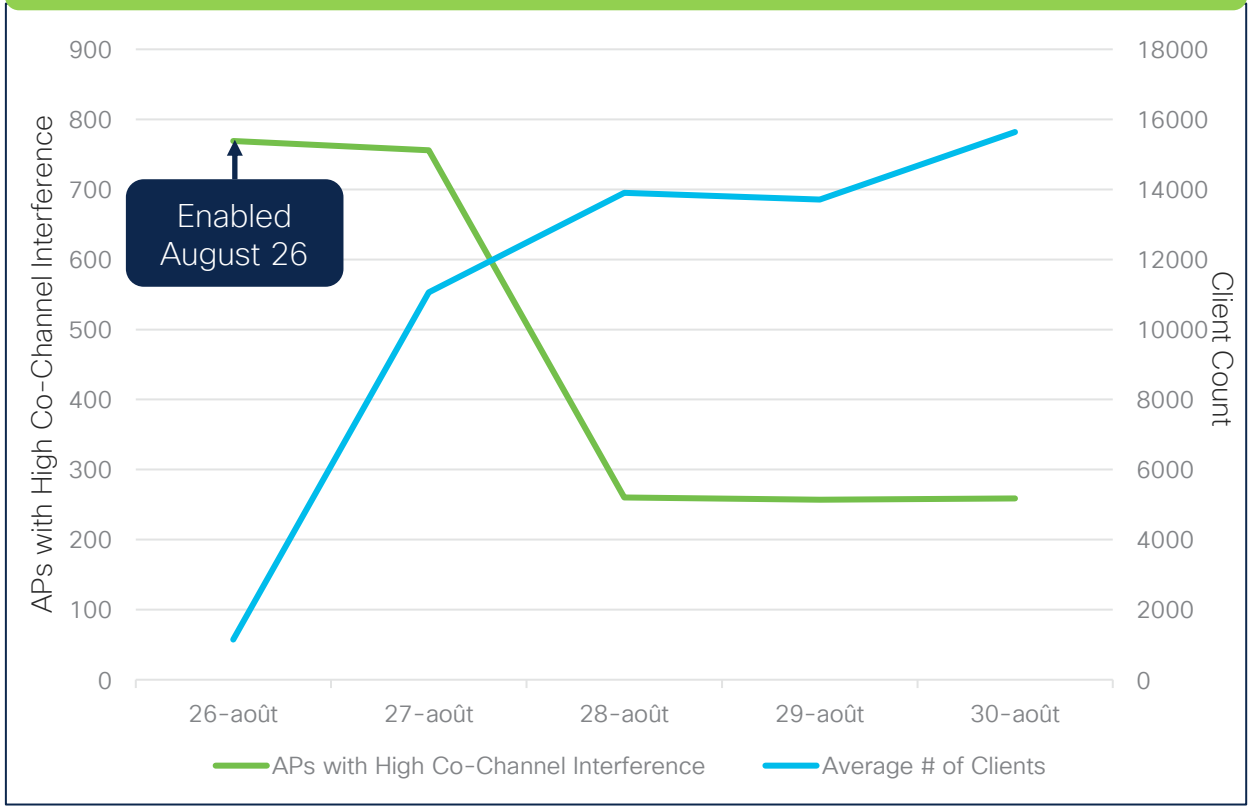
AI-Enhanced RRM Significantly Improved the Wireless Experience at Cisco IMPACT in August 2023

APs with High Co-Channel Interference Decreased by 28%!



Client SNR Increased by ~4dB!

AI-Enhanced RRM converged the wireless network within 6 hours and continued to improve the wireless experience in the high-density environment after a large influx of clients began to join.

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Conclusion

IDC*: Quatre catégories de cas d'utilisation pour la gestion de réseau d'entreprise améliorée par l'IA/ML

- **Analyser** : Comprendre ce qui se passe dans le réseau ; Apprendre ce qu'est un comportement normal et identifier les comportements an de performance ou de sécurité.

  Catalyst Center : Baseline (Wi-Fi)
  Catalyst SD-WAN: SD-WAN Analytics

- **Optimiser** : augmentez l'utilisation du réseau grâce à des informations basées sur les données et des recommandations opérationnelles basées su pour prédire les comportements futurs du réseau.

  Catalyst Center : AI-RRM
  Catalyst SD-WAN: WAN Insight, Bandwidth Forecast

- **Corriger** : résolvez les problèmes de réseau avant qu'ils n'affectent les utilisateurs. Réduisez le temps moyen d'identification et de réparation des anomalies de sécurité.

  Catalyst Center : AI-MRE , AI issues
  Catalyst SD-WAN: WAN Insight, Anomaly Detection

- **Prédire** : en fonction des modèles de trafic historiques, prévoyez les futurs problèmes de réseau qui peuvent être anticipés pour garantir l'expérience des utilisateurs et des applications.

  Catalyst Center : Trend & Deviation
  Catalyst SD-WAN: WAN Insight, Anomaly Detection

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*IDC #US5
Source: Fu

Prochaine étape

- L’AIOps Cisco est une réalité
- Commencez à exploiter les outils IA Cisco WAN/Campus dès aujourd’hui
- Restez à l’écoute, de nombreux nouveaux outils IA arrivent!

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References

- What is AI in Networking?
- AI/MRE sur Catalyst Center blog
- Blog Cisco Fellow JP Vasseur (IA expert): https://jpvasseur.me/

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Un événement virtuel ultime pour les étudiants en technologie du monde entier. Et c'est gratuit !

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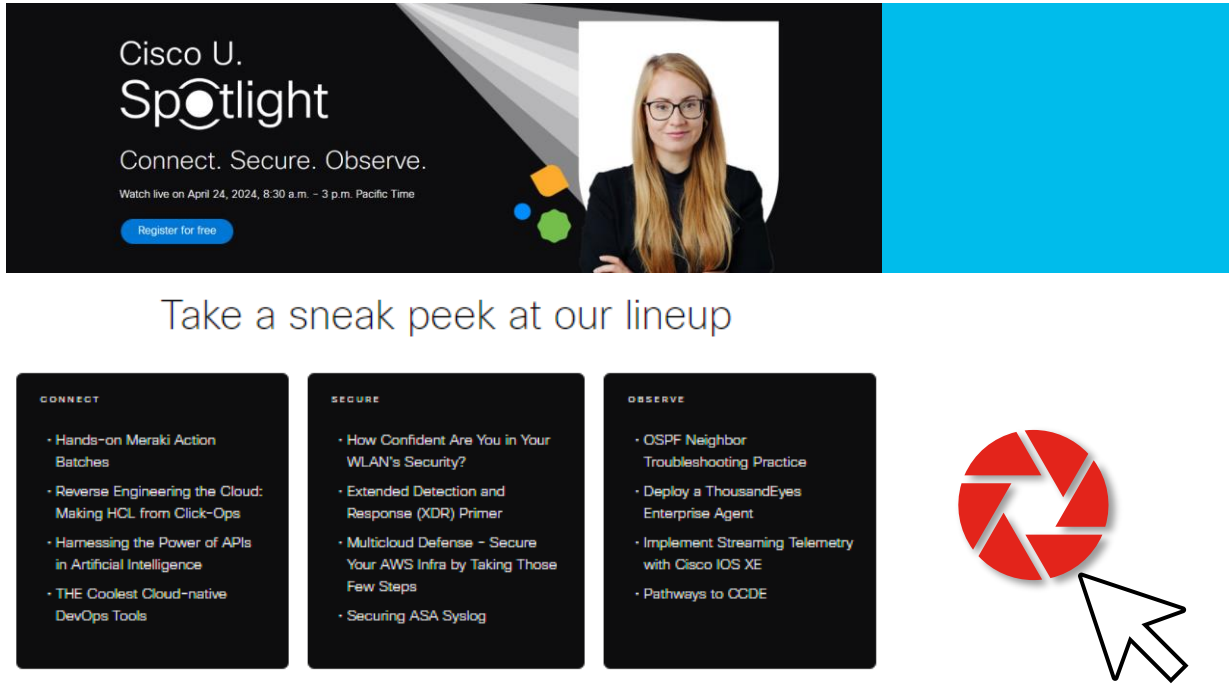
Nous mettons en lumière les sujets et les technologies les plus importants – depuis les fondamentaux et les meilleures pratiques, jusqu'aux compétences spécialisées – qui génèrent les principales tendances et innovations d'aujourd'hui. Découvrez les dernières stratégies et technologies pour connecter, protéger et observer les environnements réseau les plus complexes d'aujourd'hui.

Explorez plus de 25 sessions animées par des technologues, des leaders du secteur et des experts de Cisco ou de technologies adjacentes, et plongez-vous dans des keynotes, des ateliers pratiques, des présentations de niveau expert, ou les trois !

Apprenez aujourd'hui, dirigez demain. Développez les compétences nécessaires pour progresser, exceller et piloter la prochaine innovation de votre organisation.



Why attend

The more you learn, the more you and your organization can do. Amp up your tech knowledge and unlock the transformative power of disruptive technologies. We'll light the way and show you and your IT team what's possible when you can connect, secure, and observe the network.

Who should attend

Cisco U. Spotlight offers something for everyone. Whether you're an individual or team lead, these sessions can help you or your team thrive in current roles, increase scalability, and innovate faster. From our targeted classroom sessions focused on helping you understand the current landscape of technology and tools, to our hands-on sessions delivering practical experience, this event will be a game changer for

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Avez-vous des questions ?

Si vous avez posé une question sur le panneau de Q&R (Q&A en anglais) ou que vous revenez sur la communauté dans les jours qui suivent notre webinaire, nos experts peuvent encore vous aider !

Soumettez vos questions jusqu'au 27 mars 2024.

https://bit.ly/AMA-mar24

Faites valoir votre opinion

Répondez à notre enquête pour...

- Proposer des nouveaux sujets
- Évaluer nos experts et contenus
- Envoyer vos commentaires ou suggestions

À la fin de cette session, une enquête s'ouvrira dans la fenêtre de votre navigateur, cliquez sur le lien.

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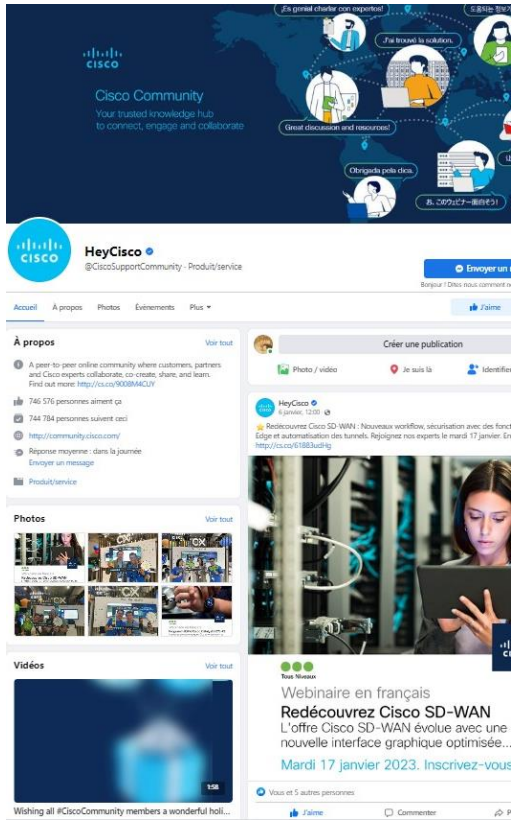

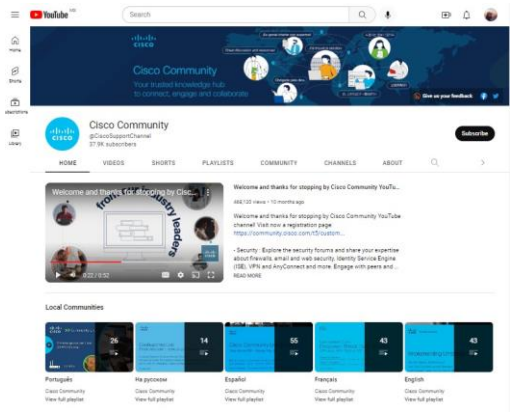

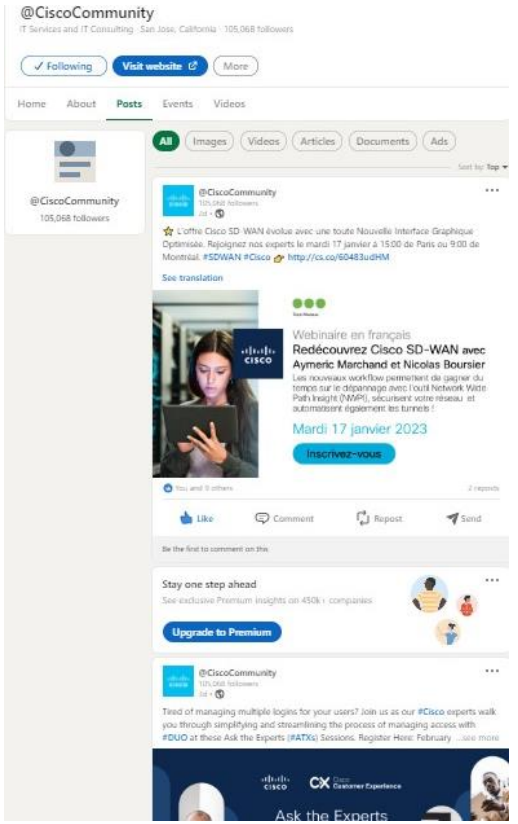

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